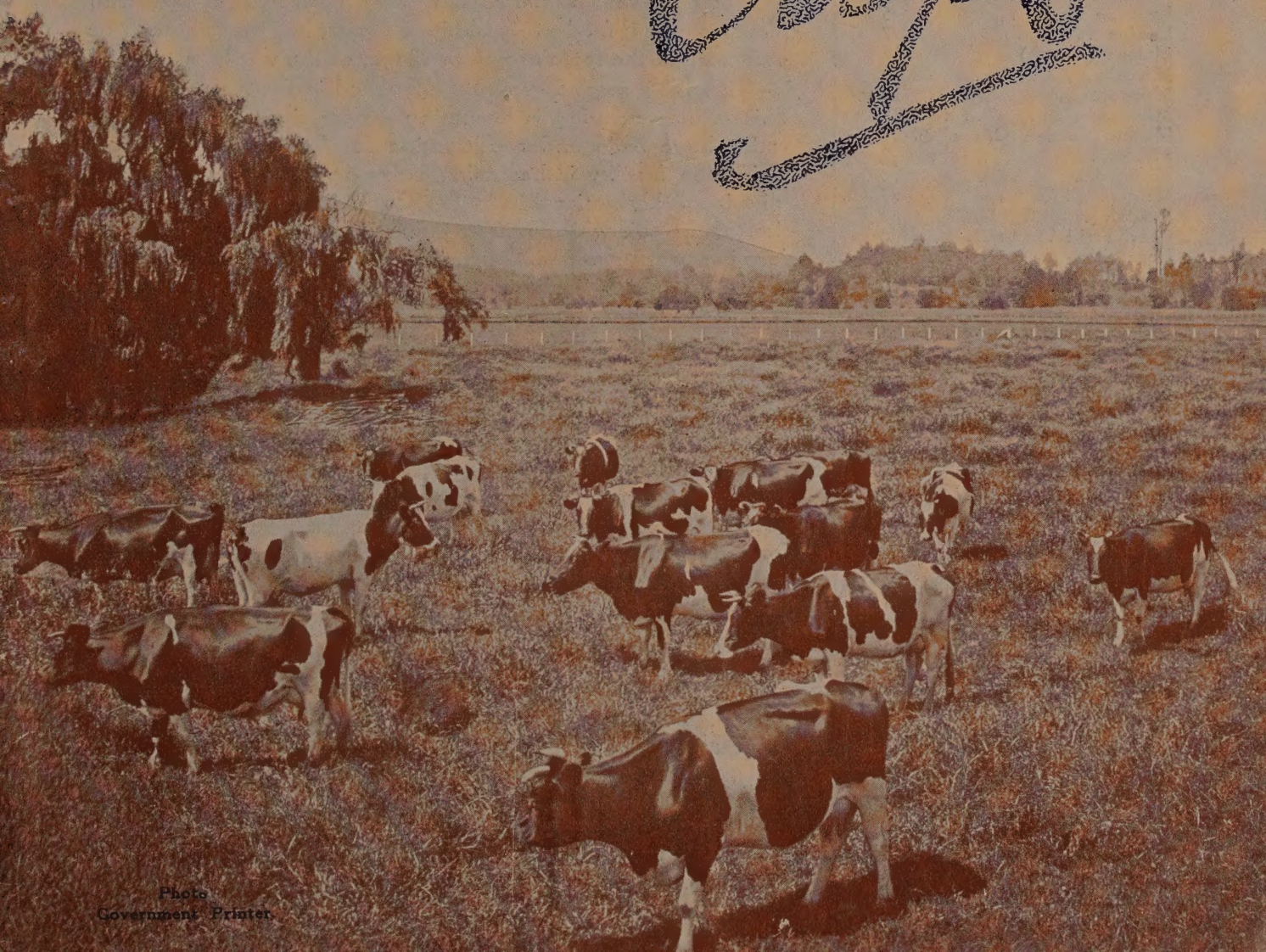


Yates' Book of Fodder and Grazing Crops

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FODDER & GRAZING CROPS

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Summer Fodder Crops are
an Insurance

THE fact, that the growing of Fodder Crops during the summer months is an insurance against the effects of a dry period, is now widely realised throughout the Coast, Tablelands and Western Slopes. Although the crops themselves, as well as the pastures, will be affected by lack of rain, they will "hang on," if sown on prepared ground and cultivated during the growing period, much longer than the pastures and so provide that green "pick" which is so essential to maintain stock in good condition and, in the case of a dairy, to maintain the herd in full production.

In the event of the season being a favourable one, with plenty of good feed available in the pastures, the crop can be harvested in the form of hay or silage, or the whole, or part of it—perhaps a second growth—ploughed in for green manure. This latter operation is becoming a necessity on some lands which have been under cultivation for long periods and of which the fertility is becoming sadly depleted. Loss of fertility is quickly noticeable by the change in the physical condition of the soil which runs together after the slightest shower forming a crust and cakes hard when dry. Crops for green manure should be included, on such soils, in a regular rotation in order to maintain and if possible increase the humus content and so keep the soil fertile and friable.

This catalogue contains full and up-to-date descriptions of all commercial fodder and grazing crops for spring sowing and even as a 'directory' of the newer varieties and the more recently introduced crops, will be of some interest to you. The current price list for all the within mentioned lines is sent you herewith; if you are buying at some later date please write for latest current price list, as new issues are published every three to five weeks.

ARTHUR YATES & CO. LTD.

ARTHUR YATES & CO. LTD.

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FORWARDING INSTRUCTIONS.—Please give full and careful directions with each order and we will do our utmost to comply with them. When no instructions are received we send according to our judgment.

SOWING CALENDAR

Approximate Times for Sowing are denoted by—

† for moderately warm climates where Oranges thrive.

* for cool climates, say where English Fruits thrive.

The most suitable times for sowing are very largely influenced by local conditions and seasons, and these and any local experience available should always be taken into consideration.

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Artichoke, Jerusalem	..	..	..	..	..	†	†	†	..	..	..	..
Barley, English	..	†	†	†	†	..	..	..	..	..	..	..
Barley (other varieties)	..	†	†	†	†	†	*	..	..	..	..	..
Beet, Sugar	..	..	..	..	..	..	..	..	..	..	..	..
Beet, Silver (Field)	..	..	†	†	†	..	..	†	†	†	†	..
Buckwheat	..	..	..	..	..	..	..	†	†	†	†	..
Canary	..	..	*	†	†	..	..	..	..	..	..	..
Carrot (Field)	..	..	†	..	..	..	†	†	†	..	..	..
Cabbage (Cattle)	..	*	*	..	..	..	..	..	†	..	*	..
Chicory	..	..	†	*	..	..	..	†	†	†	..	..
Clover (Sorts)	..	..	*	†	†	†	..	*	..	..	..	..
Couch Grass	..	..	..	..	..	..	†	†	†	†	†	..
Cow Pea	..	..	..	..	..	..	..	..	†	†	†	†
Grasses, Pasture	..	..	†	†	†	†	..	*	..	..	..	..
Kale, Thousand Headed	..	†	†	†	..	..	..	..	..	..	*	..
Kale, Chou Moellier	..	†	†	†	..	..	..	..	..	..	..	..
Linseed (Flax)	..	..	..	..	†	†	†	†	..	..	..	..
Lucerne	..	..	†	†	†	†	..	†	†	†	..	..
Lupins	..	..	†	†	†	†	†	†	†	..	*	..
Maize, for Grain	..	..	..	..	..	..	..	..	†	†	†	†
Maize, for Fodder	..	†	†	†	..	..	..	..	..	†	†	†
Mangel	..	..	†	†	..	..	..	..	†	†	†	..
Mangel, Half Sugar	..	..	†	†	..	..	..	..	†	†	†	..
Millet (See Sorghum)	..	..	..	..	..	..	..	..	..	..	..	..
Mustard	..	..	†	†	†	..	†	†	†	..	..	..
Melon, Cattle	..	..	..	..	..	..	..	..	†	..	..	..
Oats, for Fodder	..	*	†	†	†	†	†	†	†	..	..	..
Oats, for Grain & Hay	..	..	†	†	†	†	†	†	†	..	..	..
Paspalum	..	†	†	†	..	..	..	†	†	†	†	†
Peanuts	..	..	..	..	..	..	..	..	†	†	†	..
Peas, Field, for Fodder	..	†	†	†	†	†	†	†	†	†	*	..
" " " Soiling	..	†	†	†	†	†	†	†	†	†	*	..

Farm Seeds	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Peas, for Garden	..	†	†	†	†	†	†	†	†	†	*	†
" " Market	..	†	†	†	†	†	†	†	†	†	*	†
Pumpkin	..	..	..	..	..	..	..	..	†	†	†	..
Potatoes	..	..	†	†	†	†	†	†	†	†	*	..
Rape	..	..	†	†	†	†	†	†	..	..	..	..
Rye Corn	..	..	†	†	†	†	†	†	..	..	..	..
Rhodes Grass	..	..	†	†	†	..	..	..	†	†	†	..
Sainfoin	..	..	..	*	*	*	..	..	..	..	..	..
Saltbush	..	..	..	†	†	†	..	†	†	†	..	..
Shallots	..	..	†	†	†	†	..	..	..	..	..	..
Sheeps Burnet	..	..	..	†	†	†	..	†	†	..	..	..
Sorghums & Millets:	..	..	..	..	..	..	..	..	..	..	..	..
Saccharatum	..	†	†	..	..	..	..	..	†	†	†	†
Saccaline	..	..	†	†	..	..	..	..	†	†	†	†
Planters' Friend	..	..	†	†	..	..	..	..	†	†	†	†
Early Amber Cane	..	..	†	†	..	..	..	..	†	†	†	†
Millet, Fodder V'ties	..	†	†	..	..	..	..	..	†	†	†	†
Millet, Broom	..	..	..	..	..	..	..	..	†	†	†	..
Grain Sorghums	..	..	..	..	..	..	..	..	†	†	†	..
Soy Beans	..	†	..	..	..	..	..	..	†	†	†	†
Sudan Grass	..	..	..	..	..	..	..	..	†	†	†	†
Sunflower	..	..	..	..	..	..	..	..	†	†	..	..
Swede	..	..	†	†	†	..	..	..	..	..	*	..
Tagosaste	..	..	..	†	†	†	†	..	†	†	†	..
Tares	..	..	†	†	†	†	†	†	†	†	..	..
Tobacco	..	..	..	..	..	..	..	..	†	†	..	..
Turnip (Field)	..	..	†	†	†	†	..	..	..	..	..	..
Velvet Beans	..	..	..	..	..	..	..	..	†	†	†	†
Wallaby Grass	..	..	..	..	..	..	..	..	..	..	..	..
(Danthonia)	..	..	..	†	†	†	†	..	†	†	..	..
Wheat, for Fodder	..	..	*	†	†	†	†	..	†	†	..	..
" " Grain	..	..	..	†	†	†	†	†	..	..	..	..

THE IMPORTANT GRASSES

For SPRING and SUMMER SOWING

THESE four grasses, but especially *Paspalum Dilatatum* and Rhodes Grass, are very extensively used in our dairying districts, while Rhodes Grass will also succeed well in many parts of our Western Country where the elevation is not great. They should be sown in late spring, summer or early autumn when the weather and soil conditions are favourable for germination and quick growth.

Paspalum Dilatatum (Yates' Prime "Hand Shaken")

Does well planted in conjunction with Rhodes Grass in coastal districts after a burn. The seed should be sown during spring, summer, or early autumn, say from August to April. Succeeds best where moist warm conditions prevail, but will prove a very profitable crop even where a moderate rainfall is experienced, and under these latter conditions it is not so likely to become rank and difficult to deal with. Once introduced into swampy land *Paspalum* soon covers it with a thick mat and gives good grazing where the land would otherwise be useless. It is an excellent practice to sow a few pounds of Perennial Red Clover and White Clover with the *Paspalum*, as these provide feed when the latter is more or less dormant. Sow ten to twelve pounds of *Paspalum* per acre. Special quotes for large quantities.

Kikuyu Grass (*Pennisetum clandestinum*)

We undoubtedly have in Kikuyu a grass of which the quality and capabilities are hardly yet realised by farmers and pastoralists. It is a native of British East Africa and is a perennial grass with a strong system of surface and underground runners. On this account it is a very quick spreading variety and also remarkably drought resistant.

It should succeed and be profitable to grow in almost any part of New South Wales where the rainfall is 20 inches or over. It is of particular value for poor sandy soils where it is usually difficult to grow anything but weeds, though naturally the richer soils will give correspondingly better results.

The underground runners quickly root at the joints then send up fresh growths to a height of 1 foot or 2 feet or even more in rich localities.

Under coastal conditions it is the quickest growing grass we have, growth taking place continuously, except where heavy frosts are experienced.

On the slopes it does fairly well, and in Queensland also it is creating widespread interest. It will, we think, be found a useful grass in many parts of Victoria, particularly where *Paspalum* is found.

It does not seed in Australia, therefore it can only be distributed by means of rootlets which we can supply at any time from late winter on. Plantings are usually made during the spring, summer and early autumn months. It is recommended to plow the land, opening up furrows six feet apart, and dropping in the rootlets every three feet. At this rate about 2,500 plants will suffice for one acre. It adds to the value of the pasturage and gives a more balanced ration if some of the clover family can also be introduced, and we suggest $\frac{1}{2}$ lb. White Clover or Subterranean Clover, and in more favoured districts Perennial Red Clover.

Approximate cost of Postage and Packing on Kikuyu Grass Roots—
Per 100, 1s.; per 50, 9d.

Rhodes Grass (*Chloris gayana*)

A very strong growing grass, which, rooting at every joint, soon covers a large area. About the only grass that will hold its own with *Paspalum*. Excellent for moist situations and hot climates, but succeeds well in a large range of situations and climates, except where heavy frosts are experienced. It is quick germinating after rain and makes growth rapidly and is very palatable to all stock. When well established it is remarkably drought resistant. It is very largely used for surface sowing after clearing and burning off scrub in the coastal areas, and for this purpose there is nothing better. In all the dry inland districts of Queensland, Rhodes Grass is proving of the utmost value and has also been of great value in Western N.S.W., not only in mixed pastures but as a special grazing crop when planted with Lucerne, say four pounds of Rhodes and two or three pounds of Lucerne per acre. It has been found in inland districts that Rhodes Grass germinates well only after good summer rains, so seed should be on hand and sown immediately the weather breaks. When sown alone six to ten pounds per acre is sufficient if good quality seed is used.

Paspalum Compressum

(Also known as Dorrington Grass or Carpet Grass).

A dwarf compact growing variety of *Paspalum*, proving of great value for poor sandy stretches of country where *Paspalum Dilatatum* does not do well; makes well matted roots and is suited for warm climates. Sow five pounds per acre.

Couch Grass (*Cynodon dactylon*)

Grows all over Australia but its economic value is confined to the temperate coastal districts. It is of great value for binding loose soil, sand banks, etc. It should not be planted near cultivation paddocks, as it is difficult to eradicate. Sow in warm weather after good rains. Sow ten pounds per acre.

In warm climates this grass is very largely used for lawns, making a close, fine turf, and withstanding considerable heat and drought. For this purpose a pound will sow about ten yards square.



A luxuriant Kikuyu Grass Pasture at Wollongbar.

Dept. of Agric. Photo.

OTHER PASTURE GRASSES

Autumn Sowings only are recommended, except under special circumstances or where otherwise stated. The varieties in the following list are introduced grasses (except Wallaby and Mitchell Grass) which have been proved to have a distinct value in the temperate parts of Australia with a good average rainfall. They can be recommended for the New South Wales coast and tablelands and for districts with similar climatic conditions in other States.

RYE GRASSES

ITALIAN (*Lolium Italicum*): This variety is biennial but will last longer if allowed to seed itself down. It is valuable as a hay crop sown alone, or with Clovers or grain, and is also used as a cover crop sown with perennial grasses. Of the two types we offer, Yates' Extra Heavy Re-machined Italian is a heavily re-cleaned first-class strain, while Western Wolths Italian is an early hardy and vigorous selected strain.

PERENNIAL (*Lolium perenne*): A very good winter grass for the dairy farmer in the coast and tableland districts. We offer two strains—Yates' A.Y. Old Pasture Perennial, saved in a dry climate from true perennial type pastures and very heavily re-machined, and Yates' Re-machined Perennial, which is the next best long lasting strain, and superior in this respect to a great deal of the Rye Grasses offered. A great deal of the cheap Rye Grass offered is saved in cool, moist climates, and is, therefore, quite unsuited for Australian conditions.

WIMMERA (*Lolium subulatum*): An annual species which is exceedingly hardy and drought resistant and is proving of the utmost value on the western slopes and inland districts where there is a reasonably good winter rainfall. It will provide green feed for seven to eight months of the colder part of the year, and after it dries off it is still very nutritious as the seeds remain attached to the dry straw for a long period. It is being used very extensively for sowing down wheat lands which require periodical rest from the regular crop. In districts with a good regular winter rainfall it makes an excellent pasture sown in mixture with Subterranean Clover. It is an Annual which seeds itself down each year.

COCKSFOOT (*Dactylis glomerata*)

One of the hardest of the Perennial Grasses suitable for the coast and tableland districts of New South Wales where it is used extensively, particularly on hill country and second quality ridges.

PRAIRIE GRASS (*Bromus unioloides*)

A very valuable grass for the dairyman, it grows luxuriantly during the winter if sown on rather loose rich soils, and cows milk splendidly on it. It should be allowed to seed itself down at the end of each growing season, and if grazed heavily then allowed to come away again, it will prove almost as valuable as a crop of oats. We offer Yates' Finest Bright Re-machined which is plump seed of a very high percentage of germination and purity.

PHALARIS BULBOSA

An exceedingly valuable perennial grass which is considered by many to be superior to Rye Grass and Cocksfoot for our average tableland conditions. It is succulent, palatable and withstands hard cold conditions particularly well. Once established it is deep rooting and drought resistant and forms a splendid permanent pasture which stands hard grazing.

TALL OAT GRASS (*Avena elatior*)

This is another grass which is suitable for providing winter feed in our tablelands and districts where the finer grasses will not stand. It has a deep rooting system, is drought resistant and is considered suitable for land which is rather too light in character for other pasture grasses.

FESCUES

Of the several varieties of Fescue the one known as **Tall Fescue (*Festuca elatior*)** is most used. While it has not the feeding value of some of the finer grasses, it is extremely hardy, stands drought well, and is adapted to nearly all classes of soil. If allowed to grow too high it gets coarse but if kept fed down is quite palatable. It provides a valuable green pick when other grasses are dried up. **Chewings Fescue (*Festuca rubra* var.)** is fairly extensively used in New Zealand for sheep pasture. It is permanent and throws up a useful amount of feed in the early spring. **Meadow Fescue (*Festuca pratensis*)** is a fine perennial grass for districts where long dry spells are unusual. **Fine Leaved Fescue (*Festuca ovina tenuifolia*)** is extensively used in lawn mixtures but is not suitable for pastures.

POAS

There are two important varieties:—(a) **Kentucky Blue Grass (*Poa pratensis*)** which is suitable for tableland districts with a good rainfall where it will yield fine feed in the cool season. We strongly recommend autumn sowing only; (b) **Water Meadow Grass (*Poa aquatica*)**: This is used rather extensively on marsh lands and swamps in Gippsland; it is nutritious but rather coarse. Seed is not available but we can usually supply roots.

TEFF GRASS (*Eragrostis abyssinica*)

An annual summer growing grass after the style of Sudan Grass. In all tests in this country, it has not proved nearly as good as Sudan Grass which we regard as much more suited to Australian conditions.

ELEPHANT GRASS (*Pennisetum purpureum*)

Though not a pasture grass this is a fodder plant of considerable value. It stands cutting well and stock relish it if not allowed to get too high and coarse. It grows during the summer and if unchecked will attain a height of 12 to 15 feet. A few well established belts of this fodder should form a wonderful drought reserve. Roots only are available and should be planted in the spring.

WALLABY GRASS (*Danthonia species*)

One of the most valuable species of our Native Grasses, it grows in a wide variety of soils and climates and we strongly recommend that a small quantity be added to all mixtures.

MITCHELL GRASS (*Astrelba species*)

This is another exceedingly valuable native grass which provides a large amount of succulent herbage during the summer months. This grass is very nutritious, and extremely drought resistant. It is one of the most important grasses of the Western Plains of N.S.W. and Queensland. Seed is unobtainable this season.

OTHER GRASSES

We also stock the following, which, however, are of minor importance except for special situations or purposes:—Timothy, *Poa trivialis*, *Poa nemoralis*, Meadow Foxtail, Crested Dogs tail, Yorkshire Fog, Rib Grass or Lamb's Tongue (not a member of the grass family), the *Agrostis* species, and Awnless Brome Grass (*Bromus inermis*) of which, although valuable, seed of good growth cannot be supplied at present.

Plan Out Your Autumn Sowings of CLOVERS

The Clovers are a wonderful family of plants, and supply a great need in Australian pastures, namely—Winter and Early Spring Feed. In addition, their high protein content makes them good flesh builders rather than fatteners, they make excellent hay, and are particularly valuable as soil renovators.

FARMERS, especially those in areas where a fair rainfall is experienced, are realizing more and more the great value of the Clovers as Soil-renovators, as well as fodder crops of the highest quality, either alone, in pasture, or sown with other green stuff or hay crops. Like all other legumes they have the power of gathering large quantities of nitrogen from the air and a proportion of this is left in the soil.

The addition of one or other of the Clovers when laying down pastures or sowing green stuff or hay crops, will provide a much better balanced ration to the great benefit of the stock grazing it, and when the crop is done the Clover will often give a good picking for a considerable period, afterwards being ploughed in for green manure.

Clovers succeed best in good "sweet" land and usually respond well to superphosphate.

SUBTERRANEAN CLOVER (*Trifolium subterranean*)

This clover has jumped rapidly into prominence and has proved of tremendous usefulness. It grows for about six months during the cooler part of the year and buries the seeds just under the surface of the soil when matured. It is a prolific seed producer and the latter are readily eaten by stock, and in addition have no tendency to attach themselves to wool like the Native Trefoil. We are convinced that Subterranean Clover will play a most important part in farming practice in a great many parts of the State. We strongly recommend that sowing should be confined to the autumn.

YATES' A.Y. SUPERFINE WHITE CLOVER (*Trifolium repens*)

This is used perhaps more than any other for sowing down with pasture grasses. It spreads quickly in moist situations and is widely used in the coastal districts to provide a pick during the winter when grasses are dormant. On the tablelands its main growth is in spring and early summer. Though in dry years it will thin out considerably, the first good spring will bring enormous growth, as the seeds remain in the ground until the necessary moisture occurs. Probably the most drought resistant of the Perennial Clovers.

ALSYKE CLOVER (*Trifolium hybridum*)

This variety combines to some extent the qualities of the Red and White Clover but is not greatly used. It will succeed in soils which are too poorly drained for good results with Red Clover.

STRAWBERRY CLOVER (*Trifolium fragiferum*)

Specially suited for low, wet, swampy land subject to floods, etc., this cover thrives where no other clovers and very few grasses would grow. It is nourishing feed and cattle thrive on it.

YATES' SUPERFINE PERENNIAL RED CLOVER OR COW GRASS (*Trifolium pratense perenne*)

An important clover which succeeds in almost any district of good rainfall. It is largely used in conjunction with cereal crops for green fodder when it provides abundant spring feed after the cereal has ripened off. In pastures it supplies excellent feed for two or three years giving for a while a much larger yield than White Clover.

ENGLISH TREFOIL or BLACK MEDIC (*Medicago lupulina*)

Coming into favour on the Northern Tablelands and Slopes, this clover is a perennial which does best in cold districts, and deep soils. It is recommended for these localities when other clovers will not thrive. It provides good bottom herbage through the winter and lasts well in pastures.

BOKHARA CLOVER (*Melilotus alba*)

The main commercial use of this clover is for renovating land, green manuring, etc. It has a vigorous deep root system which opens up the subsoil and provides humus after the plant is ploughed in at the end of the second year before seeding takes place; it is a biennial. Bokhara has a high fodder value, but is likely to taint milk at times, also the flour if it gets into wheat paddocks.

BERSEEM (or Egyptian) CLOVER (*Trifolium alexandrinum*)

An annual clover suited for the more temperate districts where it gives magnificent feed through the winter and spring, but it must be sown in the early autumn, as it only grows during the cooler months. For fuller particulars see Catalogue of Farm Seeds for Autumn Planting.

BURR or "NATIVE" TREFOIL (*Medicago denticulata*)

Although not indigenous to Australia, this clover has become so widespread that it has earned the title of "native." It furnishes very large quantities of feed during the cooler months of the year, while after it dies off, the seed forms a valuable concentrated food which sheep will readily pick up. The burrs on the seeds however are a great disadvantage in wool.

BURRLESS or BUTTON TREFOIL (*Medicago orbicularis*)

In a few of the northern districts of New South Wales this clover is popular. It is similar in appearance to our "Native" Trefoil, but has the distinct advantage that the seed is not enclosed in a hooked burr. The plant, however, is not nearly as hardy nor prolific as the latter.

Other Clovers

Other clovers we stock but for which there is only a small enquiry are Crimson Clover (*Trifolium incarnatum*), Lotus (varieties).

Lucerne as a Pasture Plant on Hilly Country

*From an Article in the "Agricultural Gazette of N.S.W.," April, 1928,
by A. W. S. Moodie, H.D.A., H.D.D., Assistant Agrostologist.*

For some years past the Department has recommended the use of lucerne for pasture purposes in the drier and colder districts of this State. A plant having the deep-rooting habit, cold and drought resistance, plus the high fodder value of lucerne must necessarily take a foremost place in our list of pasture plants. Grown singly or in a mixture with grasses it will be found to provide excellent grazing in normal seasons, while in unfavourable periods such as the State has just passed through it provides useful grazing when most pasture plants are unproductive. This is particularly noticeable in districts depending largely on annual herbage (clovers, trefoils, &c.); when autumn and winter rains fail seeds of these plants do not germinate to provide winter and spring feed, and an area of established lucerne will greatly assist in tiding over these periods.

As a result of trials in many parts of the State it has been conclusively proved that the growing of lucerne, especially for grazing purposes, need not be confined to first quality river flat country. On the contrary, it can be readily established on most soils provided they are not too clayey and are of sufficient depth to allow the plants to form a deep rooting system. In cold districts where soil drainage is defective lucerne will not prove successful, as it will not survive long where the soil is cold and wet through the winter months.

A striking illustration of the utility of lucerne is provided at Boorowa, where an area of between 700 and 800 acres has been established. Of this area, about 600 acres are growing on hilly country, and the remainder on creek flats. The experience gained on this property may be of interest and value to graziers in similar localities and (with modifications) in any locality where lucerne can be grown for grazing purposes.

The Boorowa district is situated on the southwestern slopes, the height above sea-level being about 1,600 feet, and the country being undulating to hilly, the winters are cold, and heavy frosts are experienced. The rainfall (average for forty-five years—22.67 inches) mostly occurs during the winter months. The natural grasses and clovers found in this district are of good quality and under ordinary conditions, about one and a half sheep per acre are carried. By the use of lucerne for grazing, the sowing of grasses and clovers, and the top-dressing of natural pastures, the carrying capacity of this country will ultimately be much increased.

Lucerne was sown eight years ago on hill country, the soil being a grey granite, fairly free working, but setting hard on the surface, specially during the winter months. The rate of seeding was 6 lb. per acre and a good germination resulted. Grazing has been carried out on this area ever since, and the stand is still thick, and the growth vigorous and healthy. For a number of years the lucerne was grazed continuously, and it was found that barley grass (*hordeum murinum*), corkscrew (*Stipa setacea*) and saffron thistle (*Carthamus lanatus*) were obtaining a hold in the paddocks. For the past three

winters the area has been cultivated with rigid tine cultivators in July, August, and September, and top-dressed in August and September with 1 cwt. superphosphate per acre. This treatment, with an occasional mowing, has had very beneficial results, the paddocks now being free from the intruders mentioned, and an earlier spring growth being obtained.

The 600 acres sown on the hills is now divided into six paddocks, and these are grazed in rotation—a most satisfactory scheme, having in mind the life of the lucerne stand. From 800 to 1,000 sheep are turned into a 100-acre area and grazed for about two weeks, the period varying, of course, according to the growth of the lucerne. The paddock is then spelled for about two weeks, and by this time sufficient growth has been made for further grazing.

Under these conditions it is found that a moderate estimate of the carrying capacity of the lucerne is from five to six sheep per acre during the warm months of the year, and two sheep per acre during the winter, so that it provides grazing the whole year round.

A point of importance is that lucerne provides good clean grazing for lambing ewes until the seeds have dropped in the grass paddocks, and the same applies for the fattening and topping-off of lambs for market. Excellent prices have always been obtained for lambs topped-off on the lucerne area.

In addition to the grazing provided by the lucerne on this property, occasional cuts are made and the hay is pressed. It is found that pressing the hay is a big improvement on harvesting loose hay for the following reasons:—

1. It is pressed in the field, the press being driven up between the windrows, and therefore the hay holds more leaf than when handled and carted to the barn.
2. A minimum of storage space is required.
3. During times when the natural pastures fail and artificial feeding has to be carried out, as in the past winter, pressed hay is much more economically handled than loose hay. It is found that one man can feed 5,000 ewes a ration of lucerne hay, 1½ lb. and linseed nuts 2½ oz. per day, when using pressed hay. This is considerably more than could be fed by one man with loose hay.

In connection with grazing stock on lucerne, many farmers are inclined to over-estimate the liability of trouble through hoven or bloat, but no such trouble is encountered on this property, and the only precaution exercised is to see that sheep are not turned into succulent lucerne when hungry.

Subterranean clover has also been tested on similar country to that carrying the lucerne, but the results from lucerne are far superior to those obtained from the clover. The latter, however, can be utilised on partly-cleared land, stony ridges, and shallow soils where it is impossible to establish lucerne.

The results with lucerne indicate that, with efficient management, the crop will do more than any other to help solve some of our problems of pasture improvement.

YATES' BROADLEAF LUCERNE In sealed bags is re-machined and tested seed of extra prime quality of a superior type of N.S.W. grown Lucerne, which is saved on selected farms in those districts in which, owing to special natural conditions, there has been evolved a long standing drought resisting strain, which has proved itself for Australian conditions. Supplied in 25 lbs. and 50 lbs. net SEALED bags.

For Nutritious Greenstuff

—Soil Renovation—Green Manure

GROW LEGUMES

While all these crops are of very great value as feedstuffs in some form or other, they have the additional advantage of being the best of "Soil Renovators," and of maintaining and increasing the fertility of the soil. Their value for rotation, and also for green manure, can hardly be over-estimated.

SOY BEANS

Whereas the value of Cow Peas are well known and appreciated by most mixed farmers, owing to climatic conditions their general use is confined to the coastal parts of Northern New South Wales and Queensland. Soy Beans, while giving much the same sort of crop, do well under a much wider range of climatic conditions, and will thus, when better known and understood, be used to a very large extent.

The wider use of Soy Beans will enable the farmer to have a summer growing legume crop which will give a hay of the feeding value of lucerne and clover if grown alone, or they can be used to bring up the feeding value of the more generally used summer crops by planting a small proportion with the other seed; the farmer will thus get the wonderful feed value of the legume in summer as well as winter. When trying Soy Beans for the first time, too much reliance should not be placed on the results of the first crop, as owing to the special soil bacteria necessary for their best growth, the following crops are nearly always very much more vigorous than the first. Sow the seed about three to the foot in shallow drills two and a-half feet apart after danger of frost is over.

We can supply the following varieties:—

MAMMOTH YELLOW—An old standard variety. One of the best for hay or seed. Very vigorous, growing over 3 feet, and thus gives a very large bulk of feed. It is medium late maturing.

LAREDO—A medium late maturing variety giving exceptionally heavy bulk of feed. Laredo has slender branches and thus gives very good quality hay. In America this variety is largely replacing the Cow Pea, and we would strongly recommend it for trial on the coast of Northern New South Wales and Queensland.

BILOXI—An upright variety, growing 4 to 5 feet high, covered with dense foliage, which does not shed easily. Gives a very heavy yield of beans and is therefore an excellent variety for growing for pigs. It is a very late maturing sort and needs a long season to make its full growth.

WILSON'S EARLY BLACK—A prolific early combination hay and seed variety. It has fine stems, which enable it to cure quickly for hay.

SOY BEANS FOR HAY

It is chiefly as a hay crop that Soy Beans are grown in the colder states of America. These States have their counterpart in our Tableland districts. On sandy soils in many of the Northern States of America Soy Beans are of great and increasing importance as a source of legume hay for stock feeding, and even on heavier soils Soy Beans are largely grown as an emergency hay crop on land where Clover fails. Soy Bean hay can be successfully grown on soils deficient in lime, and so acid that the common Clovers cannot be grown with success, if at all.

Clover has not entered into our Tableland farming practice in New South Wales, principally because of lack of knowledge concerning its many merits, but partly because of its failure in some years owing to dry weather. In such years, or when the planting of the usual Oaten Hay crop is delayed too long, Soy Beans may well occupy part of the land as an emergency hay or summer fodder crop for farm use.

VELVET BEANS

A valuable plant for moist warm climates, such as the North Coast of New South Wales and the Coastal districts of Queensland.

When conditions are suitable, it is the rankest grower and heaviest yielder of any of the legumes. As a soil renovator it is excellent, but it will be valued even more for the magnificent grazing it affords and for the high feed value of the Beans. It is also recommended as a very suitable crop to sow with maize, either for grazing or for ensilage, in this case the Beans should be sown about a month later than the maize. With this method the vines are supported by the maize stalks, and an enormous amount of fodder is obtained. If sown alone, plant in rows four feet apart and about 18 inches between the seeds, or two or three seeds in hills four feet apart in rows five feet apart.

We have supplies of the following:—

90 DAY SPECKLED—One of the earliest sorts and therefore suitable for the lower coastal districts, especially for forage and soil improvement.

OSCEOLA—Another early sort with large pods and very vigorous. Comparatively free of furze on the pods.



Biloxi Soy Beans growing well at Grafton.
Note the tremendous weight of crop.

The making of hay from Soy Beans in the autumn comes at a comparatively slack time on the farm, a decided advantage from the standpoint of labour distribution.—(H. Wenzholz, B.Sc. (Agr.), in the Agricultural Gazette of N.S.W.)

LEGUME CROPS—Continued



Dept. of Agric. Photo.
Velvet Beans are tremendous yielders and the food value of the beans is extremely high

COW PEAS

Cow Peas form perhaps the most valuable crop for green soiling that we have for the coastal and warm parts of this country. They are extensively used for this purpose in the sugar fields of Queensland, and will doubtless form the main legume for the crop rotation now being found so necessary in connection with maize growing, especially on our North Coast. Cow Peas make excellent pasture, fine hay and splendid ensilage (especially in conjunction with other green crops), and as well as all this do more than almost any other crop to improve the soil. The Cow Pea is an annual, making its whole growth during the summer months. In general appearance, habit of growth and character, and composition of seeds, it resembles fairly closely the ordinary Kidney Bean. We urge farmers to consider the advantages of sowing Cow Peas with Maize, Sorghums and Millets, either for green fodder or ensilage. Not only will the combined crop make a better balanced ration, but the total yield will be increased and also the condition of the land improved. Sow in spring after frost is over in drills 3 feet apart and drop peas at intervals of 9 to 12 inches in the drills. Sown in this manner, 10 lbs. of seed should well cover an acre, broadcast $\frac{1}{2}$ to 1 bus. of seed is required. Supplies of Cow Peas, owing to difficulty of harvesting, are always uncertain, and prices vary considerably. We expect to have the Black Seeded and the Clay Coloured.

N.Z. BLUE LUPINS

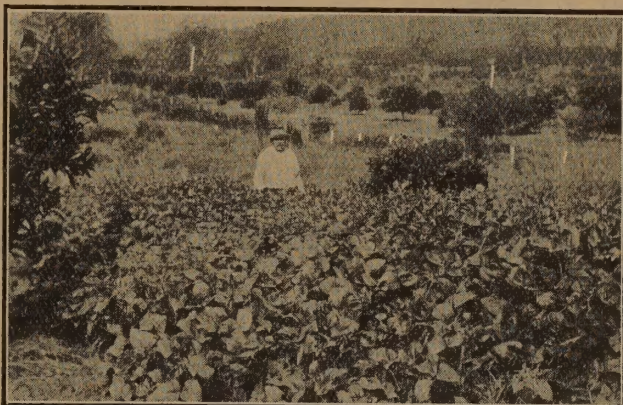
For green manuring these provide one of the best crops for ploughing in, especially in our cooler districts. When practicable we recommend autumn sowing, but they will succeed if sown in early spring. Lupins grow very rapidly and produce an immense amount of top. We do not recommend these N.Z. Blue Lupins as a fodder crop, but for green manuring only. They must not be confused with the West Australian Lupins which form valuable sheep feed and of which we hope to have supplies next autumn. Sow at the rate of 2 bushels per acre. For small trials 3 lbs. will sow an area of 100 square yards (10 yds. x 10 yds.).

MAURITIUS BEANS

An excellent green manuring crop largely grown in the sugar cane districts.

PEA NUTS

As well as being in great demand for human consumption, the Peanut is being increasingly used as a stock fodder, especially for pigs. This crop may be successfully grown in any except the coldest parts of the State. The plant grows usually from 12 to 18 inches high, and has the peculiar habit of maturing its seed in the ground. They require a rich sweet soil, which should be well worked to a depth of four to six inches, but kept firm and solid under that depth; this keeps the nuts near the top and so facilitates harvesting. Sow 30 to 40 lbs. of nuts, or say 10 lbs. shelled seed per acre. When ripe, lift the plants and harvest the nuts, which are produced below the ground. The Peanut plant may be grazed, the top made into hay, or used as a soil renovator; and is valuable as a dry farming crop. We usually have in stock supplies of tested growth of the Red Spanish and White Spanish varieties. Customers are asked to state their preference when ordering. Both these are of the small podded type and are very popular in the main growing districts. On account of the upright bushy growth it is necessary to throw a little earth on the centre of each plant to induce the vines to penetrate the soil. This greatly increases the yield.



Dept. of Agric. Photo.
Cow Peas growing in a Citrus Orchard

CROPS FOR PIGS

Legumes Recommended

Although it was once thought that pigs were not adapted for grazing, in actual practice it is found they thrive on almost all green crops, especially if a proportion of grain is fed at the same time.

Of these Lucerne is the most valuable, but where an annual crop only is needed, leguminous crops such as Clovers, all types of Peas and Beans, Tares, etc., are strongly recommended.

All these crops have a high protein content which is essential in a ration for pigs because they are such quick growers. When little or no milk is available, these foods are of the greatest value in providing a balanced ration.

Grains and other carbo-hydrates are necessary when pigs are largely fed on green crops, especially when they do their own harvesting. In many districts also feeding maize grain has given excellent results in this way.

LEGUME CROPS—Continued

FIELD PEAS

This is a crop which we consider does not receive the attention it deserves. It is an excellent fodder for sheep, pigs and other stock, but we think its main value is when grown as a combined "Legume-cereal crop." For this purpose Field Peas are excellent sown with oats or wheat. If sown early with oats they can be grazed off once or twice during the winter and then let go dry for hay. The addition of the pea straw to the oaten hay makes a much more balanced ration and is very palatable to stock.

If sown alone they may be grown for topping off to maturity and when cut fed to pigs, or they may be cut green, just after flowering, for cattle or pig feed.

This crop is classed among the best of the soil improving crops. Even if only the roots are ploughed in, it helps to maintain the fertility of the soil.

Field Peas, though not so hardy as Tares or Vetches, are earlier maturing, usually cheaper in price, and one grower reports that when grown with a cereal it will stand the trampling of grazing cattle better than will tares under similar conditions. Field Peas can be sown in the autumn or spring, but in mild districts we prefer autumn sowing.

Sown alone $1\frac{1}{2}$ to 2 bushels per acre broadcast, or say, 30 lbs. in drills 2 feet apart, is sufficient.

Sown with ceareal crop try $\frac{3}{4}$ bushel Field Peas with $1\frac{1}{2}$ bushels oats or wheat per acre.

We usually stock the Grey, Blue, Dun and Black Eye Susan varieties of Field Pea, the Grey and the Dun being perhaps the most popular.



[Dept. of Agric. Photo.]

A beautiful crop of Dun Field Peas in the Macleay River District

KUDZU VINE

(PUERARIA THUNBERGIANA)

We have had several enquiries for this. It is a perennial legume best adapted for poor soils near the coast. We can only supply in packets, and recommend that the seeds be sown in a good patch. The plants will quickly grow and send out long runners which root at every joint. These can then be severed and transplanted, and the required area thus quickly covered. Packets, 6d.

SOWING RAPE

Sowing Rape is one of the most profitable stock fodders for fattening. In addition it is a very useful rotation crop and soil renovator on account of its vigorous, deep rooting habit, which penetrates subsoils to a considerable depth.

RAPE is the great fodder plant for sheep husbandry in Australia, and with the widespread recognition of the value of combining sheep and wheat, Rape is now becoming a very important crop on the wheat farm, not only for sheep feed, but also a rotation crop and for renovating wheat land. The cost of the seed is so little, and the cultivation so simple, that it cannot fail to be much more largely used.

If paddocks, which are showing signs of exhaustion under wheat, are ploughed and a crop of Rape sown, say early in March, it will give an enormous quantity of sheep feed during the winter and following spring, which will fatten ten or twelve sheep to the acre for some months. If, during the following summer, the remains of the crop and sheep droppings are ploughed in, the land will be very much enriched, and when sown with wheat again, a greatly increased yield will result. It is easy to see how profitable it is to utilise the land in this way. Even if, owing to unfavourable seasons, the crop of Rape comes to nothing, there is very little lost as the cost of seed is so little. Rape is equally good for pig feeding or even cattle, so long as it is not given in quantity to milking cows, as it is apt to taste the milk.

Sheep put on to Rape fatten very quickly; even old broken mouthed ewes, that would starve on an ordinary pasture, very soon put on flesh, and are fit for the butcher. They should, however, be sent to market as soon as they are "topped off," as if put back on to grass they very soon lose condition again.

Poultry farmers are finding a small patch of Rape a valuable asset, and for this purpose small suc-

cessional sowings should be made through the autumn and again in the spring.

Some growers prefer to sow it with Rye Corn, say half-bushel of Rye and two pounds of Rape; others sow it with Mustard, using half-a-pound with four pounds of Rape per acre. The inclusion of Mustard corrects the tendency of Rape sometimes to scour.

We recommend sowing in February, March or April, after the good autumn rains, but as early as possible after the middle of February. It is extremely hardy and can also be sown with advantage in the early spring, especially in the cooler districts. The land should be deeply ploughed and well worked, but if sown on stubble land, it would be enough on light soils to stir thoroughly the surface with a disc harrow; but ploughing and harrowing would be much better still. Sow three pounds per acre in drills, or four to six pounds broadcast (if drilled, so much the better). Where a machine is not available it may be sown broadcast by mixing with several times its bulk of dry soil, which will materially help to distribute the seed evenly. We do not recommend that Rape should be sown on poor hungry land, as it will not succeed; it requires good soil and deep cultivation, and will well repay the labor expended in preparing the land thoroughly.

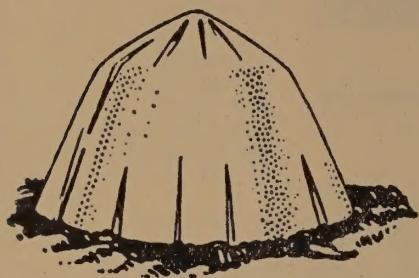
As there are several varieties of Rape, some very much better and yielding larger crops than others, also as many of the cheapest samples are tainted with wild mustard or yellow weed, we would strongly advise growers to buy our re-cleaned seed, and note that each bag is sealed and branded.

Do you want
to know about

HOTKAPS?

*A new idea for protecting early-sown
Summer Vegetable Crops*

WHAT ARE HOTKAPS? Hotkaps are made of a specially prepared wax paper in the shape of a dome slightly pointed at the top. They are about 11 inches in diameter at the base and about 6 inches high in the centre. When placed over a plant and held firmly in place by the soil around it the **Hotkap becomes an individual miniature hothouse.** They are reinforced by a strip of extra heavy waxed paper to guard against outside pressure.



PRICES and POSTAGE:

10/- per 100 (postage, N.S.W. 1/-;
other States 1/8).

95/- per 1000 (Freight extra;

weight when packed is under 28 lbs.).

Sample lots for trial, 1/4 doz. (postage, N.S.W. 4d.; other States 4d.).

We have, in course of preparation, a folder, fully describing Hotkaps and their uses, advantages, operation and results. May we send you a copy when available?

(The form below is for your convenience.)

Messrs. Arthur Yates & Co., Ltd.,
Box 2707-C, G.P.O.,
SYDNEY.

Please send me full information about Hotkaps as soon as available.

Please send me at once.....Hotkaps, for which I enclose
(State quantity)

remittance £ s. d. to cover cost and postage.

Name

Postal Address.....

.....

State.....

As a Follow-On after the Spring "Flush"

USE MILLETS

As a catch crop to augment the natural grazing many farmers require a quick-growing fodder to give a "green pick" when the pastures are ripened and dry. The need is for something that will require little labour in cultivation or harvesting. Some of the MILLETS are eminently suited for this purpose. They will grow well on even mediocre land, and several of the varieties stand grazing very satisfactorily, and shoot again and again. As a "follow-on" for milking cows and growing lambs after the spring grass has commenced to dry the several varieties of MILLETS specially indicated are excellent. Sow broadcast or through an ordinary grain drill set for suitable depth as mentioned below.



MILLET varieties under test on our trial grounds. Note the tremendous growth.

Japanese Millet

For grazing purposes or green fodder gives the earliest growth. This variety is of upright growth, and stools out very well. It grows up to 3ft. 6in. or more high, and "comes again" very quickly after being fed off or cut; also makes excellent hay. This sort will stand a dry weather pinch much better than any of the other varieties, and is by far the best for feeding off.

Hungarian Millet

Another very valuable summer green crop. Sown in the spring or early summer it will give a wonderfully heavy crop of hay or ensilage. For hay purposes the Hungarian Millet is much superior to other varieties. It is a quick grower; in fact, in suitable situations, if the seed is sown in September, it will mature early enough to obtain a second crop of hay off the same land. Twelve pounds of seed per acre in drills, or 20 pounds broadcast, is a fair sowing. When in bloom it should be cut and treated as other hay.

Broom Millet

The grain is an excellent fowl feed, but the great value of this variety is for broom making. We stock the best Hunter River grown long hurl variety. To those interested, we can supply detailed instructions about growing this crop.

White French

Is smoother and of slightly more succulent foliage, and grows up a little higher, but does not stool quite so well. This Millet also recovers very quickly after feeding off or cutting.

Pearl Millet

This is a very tall growing variety, suitable for hay making. If sown in rows and intercultivated it will attain a height of 8 to 10 feet. It has slender stalks and slender long bladed leaves, making it very suitable for hay, and should be cut while young and tender. Sow 8 to 10 lbs. per acre in drills, or up to 20 lbs. broadcast.

BUSHEL WEIGHTS

We show herewith the weights per bushel as standardised under the N.S.W. Weights and Measures Act. Many of the lines mentioned (such as Clovers and some of the Grasses) are not usually priced or sold by the bushel, but in all cases where customers order bushel weights we will reckon the number of pounds to the bushel as stated herewith.

	Lbs. per Bush.		Lbs. per Bush.
BEANS	60	HUNGARIAN	
BARLEY	50	MILLET	60
BROOM MILLET	50	LUCERNE	20
BUCKWHEAT	50	MAIZE	56
CLOVER:		OATS	40
Red or White	20	PEAS	60
GRASSES:		RYE CORN	60
Couch	20	SORGHUM	60
Cocksfoot		TARES or	
Paspalum		VETCHES	60
Rib and Rye		WHEAT (Seed)	60

SUDAN

A SUMMER FODDER CROP FOR DRY AREAS

Coming from Northern Africa, this grass has inherited a resistance to drought which even exceeds that of many of our native grasses. Mr. E. Breakwell, in his book, "Grasses and Fodder Plants," says: "It may be said to be the most drought-resistant grass yet grown in the western districts . . . Even on a dry seed-bed the seed will germinate and produce healthy seedlings on fifty points of rain." It is a persistently heavy cropper, with a high feeding value, and one of the very best hay crops.

AS a summer crop Sudan Grass has come into striking prominence during the past few years. We believe that this grass is destined to take a very high place among our summer fodder crops. Though not so heavy a yielder in its primary growth as some of the Millets, after the first crop is taken off, Sudan Grass stools quickly and comes again and again in a miraculous manner. The rapidity of growth and weight of crop of the second, third, fourth, and in some cases fifth cuts surpasses anything else among the summer fodders. The correct stage at which to cut Sudan Grass for hay or chaff is when the crop is flowering and before the seed has formed.

Sudan Grass requires a good seed bed and a certain amount of moisture in the soil to germinate quickly and evenly, but, once established, it has proved itself to be of great drought resistance, in fact, it can be accepted that Sudan Grass is probably the only summer fodder crop that will give consistently good results in the western districts of N.S.W. Its palatability, green, or in the form of hay, is indicated by the greedy manner in which all classes of stock eat Sudan Grass. Its fodder value, tested under chemical analysis, is stated to compare most favourably with wheaten or lucerne hay. Sudan Grass stands grazing extremely well, and it is probably the most valuable of the summer-growing fodder crops for this purpose.



Illustrating the value of Sudan Grass as a Summer Fodder in the Western Districts.
Crop growing on typical wheat country on the Western slopes

GRASS

A member of the Sorghum family, Sudan Grass is an annual and must be sown down each year. It is most sensitive to frosts, and should not be sown until all danger of such is over, and then as early as possible so as to ensure a good growth and a strong stand by midsummer. Prepare the land as in the cultivation of wheat or sorghum. Sow either in drills or broadcast. If in drills, about eighteen inches to two feet apart, sow 6 lb. to 8 lb. to the acre. This allows of cultivation between the young plants, assisting materially in helping on the young growth by conserving the moisture and checking the weeds. Probably the most practical method of sowing this crop on large areas is through the ordinary grain drill at 8 lbs. to 12 lbs. per acre, or failing that, broadcast at the rate of 12 lbs. to 16 lbs. per acre. Its value as a grazing crop is very high, but will be enhanced by growing with Cow Peas or Soy Beans where the climatic conditions permit.

As will be readily understood in such a quick-growing and vigorous plant, Sudan Grass responds very noticeably to fertilizers. An application of from 1 cwt. to 2 cwt. of superphosphate with the seed is strongly recommended.



Harvesting Sudan Grass for Silage

Sudan Grass is not a Pasture Grass

Although Sudan Grass is such a wonderful crop for summer feeding, it should not be confused with the class of plants known as Pasture Grasses, which are either perennials, or annuals which seed themselves down every year.

Sudan Grass does not seed itself down in the ordinary sense of the term, although it produces enormous quantities of seed in favourable seasons.

As a feeding-off crop Sudan Grass is characterised by extremely high palatability and nutritive qualities, and the amount of stooling is considerably increased by grazing. It will carry two sheep to the acre on the slopes and tablelands without irrigating, while both sheep and dairy cattle are extremely fond of it.

Sudan Grass and Lucerne on the Wheat Farm

To increase the sheep-carrying capacity of the wheat farm (and this would seem advisable considering the price of wheat) it will be necessary, after having brought the grazing portion to its highest capabilities by top-dressing and other pasture improvement methods—to reduce the wheat growing acreage in order that other crops may be grown for sheep feed either by grazing or by being cut and fed to them. Lucerne is probably the best crop for this purpose. **It will grow for grazing purposes on practically all wheat lands**, providing good feed for several seasons, occasionally giving fair cuts which can be made into hay or silage. To provide green feed other than Lucerne for sheep during the summer months, a small area could be planted with Sudan Grass each year. This crop could be grazed throughout the summer months, and for this purpose it has proved its value, carrying several sheep per acre throughout its growing period which is from October to the end of April. (From an article by H. J. Kelly, Manager Cowra Experiment Farm in the "Agricultural Gazette of N.S.W.", January, 1928.)

A Word on "Stock Poisoning"

LITTLE RISK WITH SUDAN WHEN RELIABLE SEED IS USED

There is much misconception about poisoning of stock by Sudan Grass, and we feel that a little space allowed here for a brief statement of the facts will be well used.

In tests carried out by the Department of Agriculture over a series of years, using a pure strain of seed, no trouble from poisoning has ever occurred. This in itself would show that the risk, if any, is infinitesimal when using a pure strain.

But Sudan Grass is very closely related to the Sorghums and will readily cross with them if grown nearby, forming a hybrid, which is quite distinct from ordinary Sudan Grass, and shows broader leaves, coarser stems, more bunchy seed heads, and more vigorous growth. These hybrids are usually easy to see growing in the crop, and, if present, should be rooted out. Sweet Sorghums are definitely known to be poisonous under certain circumstances, and so it is not hard to understand that a hybrid would probably show the same tendency.

Although we cannot and do not guarantee that the Seed we offer is free from hybrid strains, we wish our customers to know, that realising as we do the importance of this matter, we take the greatest care in the selection and examination of our samples, besides making exhaustive enquiries about the origin and place of growth, and furthermore, every sample is passed by the Department of Agriculture as free of injurious Sorghum Hybrids.

Finally, in considering the advantages and disadvantages of Sudan Grass as a fodder, we would suggest that the slight risk involved is far outweighed by the great economic value of, and the big returns so easily obtained from, this wonderful summer fodder crop.

Order early—sow as soon as frosts are over, to get a long growing season.

FOR PRICES, SEE CURRENT LIST POST FREE.



Selected and
Specially
Re-Graded
Samples

MAIZE is a summer crop of the utmost importance in all districts where a reasonable fall of summer rains can be counted on. Even where the summers are usually on the dry side, Maize can be successfully grown if sown in drills, and carefully and regularly cultivated. In cool districts where Maize will not ripen, it is still a most valuable green fodder for early autumn use. We strongly recommend sowings in drills, even when only needed for green fodder or ensilage.

The extra weight of crop from a paddock of Green Maize sown in drills and cultivated will more than repay the extra cost of labour. Should the season turn dry a fair yield would result from cultivated Maize, whereas the broadcasted crop might be a failure.

By sowing the early maturing varieties it is possible to harvest a crop of grain in districts where the later maturing sort will not ripen. The best time for sowing Maizes varies somewhat in the different districts. For green crop or ensilage, Maize can usually be sown a month or so later than would be necessary for a grain crop.

As the majority of our customers will require Seed Maize for green crop, we would advise them not to overlook the White Grained varieties, as generally, besides yielding a heavier grain crop than the yellow sorts of the same class, they are all exceptionally good, green crop Maizes, producing a heavy leafy succulent growth.

Sow 8 to 12 lbs. per acre in drills, or one bushel to one-and-a-half bushels if broadcasted. Although the prices of Yates' Selected and Specially Re-graded Seed will be found slightly higher than ordinary uncleaned samples, in view of the really small quantity of seed required per acre this should not be considered, and farmers in their own interests should not begrudge the small extra cost of graded samples.

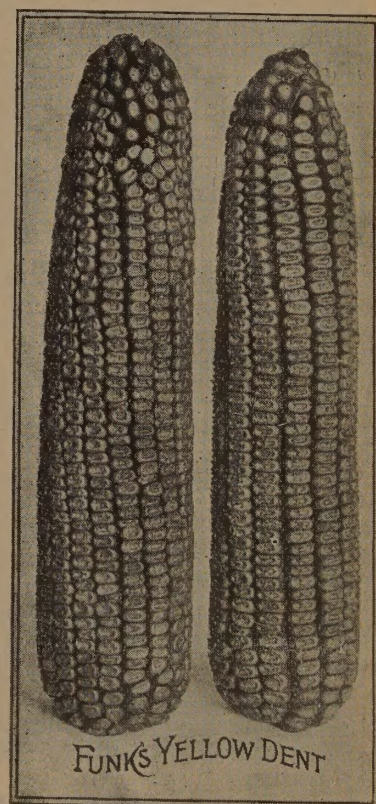
All our Seed Maize is specially treated in our seed cleaning plant, and while we cannot eliminate the whole of the inferior and discoloured grain, we do remove a very large proportion, thereby greatly improving the appearance and germination of the samples, and, as a result, our seed is noted for its quick and even growth.

VARIETIES

EARLY MORN—An exceptionally early yellow variety with a good but small grain. It is specially recommended for very cold districts and for very hot, dry districts where early maturity is essential. It is also very useful in the Maize growing districts for land which is wanted for autumn use, as owing to its exceptional earliness it can be harvested in plenty of time to work the land for autumn crops. In practice it is found that owing to its small growth it can be planted much closer than usual. A very good yield per acre is obtained by spacing the rows 30 inches apart and planting the seed every 18 inches in the row.

GOLDEN GLOW—Although not yet widely known, this Maize has made good on the tablelands, and will, we think, in time displace some of the varieties now being grown in those districts.

It is extremely early, grows only a short stalk, and on appearance seems to be essentially a grain variety. Under quick-growing conditions it would mature in about four months, but takes a few weeks longer in the cold climates, for which it is apparently best suited.



SEED MAIZE—Continued

NINETY DAY—An early flint. A good early green crop variety.

SILVERMINE—The earliest white grain, deep and solid, excellent for early green fodder. Very hardy and drought-resistant, also gives good yield of grain.

SMALL RED HOGAN—A fine early green crop variety.

FUNKS EARLY YELLOW DENT—One of the earliest of the Dent varieties, especially recommended for the tablelands and slopes. Very hardy and drought-resistant. A very good variety for a grain crop, has a fine grain.

SMALL LEAMING—A very popular variety on the North Coast, gives a fine early green crop. We usually have the red grained sort and may have the yellow.

WELLINGROVE (or Early Yellow Dent)—Medium season, heavy cropping Dent variety, giving medium size crop of fairly thick moderately broad grain. Is used to a fair extent on the tablelands and is also suitable for the Western Slopes.

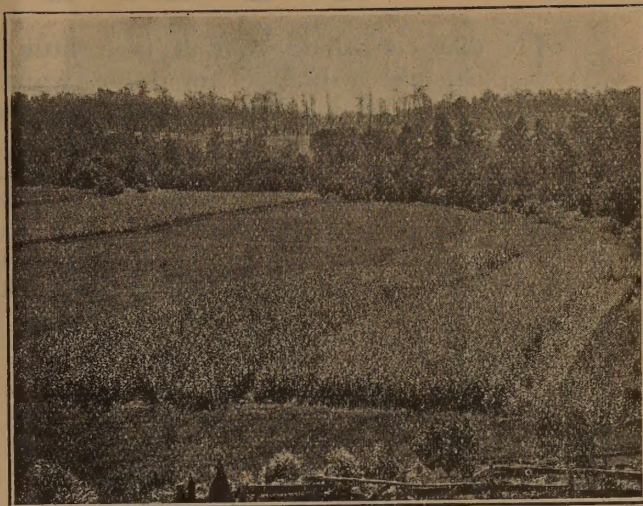
FITZROY (or Improved Yellow Dent)—A variety which is becoming extremely popular both as a good yielder of grain and for green fodder and silage. Grain is moderately thick, broad and deep, and a bright colour, which makes it very attractive.

HICKORY KING—A very popular main crop white variety. Very broad grain, is exceedingly good for green fodder, specially for the highlands, as the variety suckers freely.

GIANT WHITE—Excellent main crop. Grain large, deep and solid. Splendid green fodder.

YELLOW MORUYA—A very large grained, late maturing variety which is very popular on the lower South Coast.

LARGE RED HOGAN—Late maturing variety, very popular in districts with long season. In favourable seasons it gives a very tall growth, but as the stalk is stout it resists wind well. Grain is fairly thick, broad and deep.



A fine crop of Maize for green feed grown from Yates' Re-graded Seed.

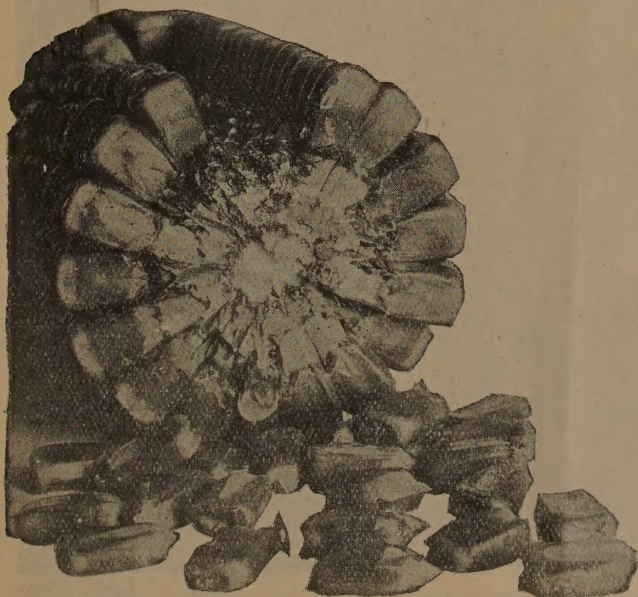
YELLOW HOGAN—A late variety which has been very successful on the Macleay River, N.S.W. The grain of this variety is exceedingly heavy.

YELLOW HAWKESBURY—Deep, broad grain, splendid in warm districts; heavy cropper.

At time of going to press, supplies of some varieties are not yet assured. See current Price List before ordering.

Fallowing and Nitrification

It is well known that bacterial and chemical forces are more active in well fallowed soil during the summer months than in soils not so treated, and this leads one to believe that the lower yields on land which has not been fallowed, in districts which enjoy, say, a 20-inch rainfall or more, are due to the fact that during the summer months preceding cropping, the soil has not been in a satisfactory condition to allow bacterial and chemical forces to function to advantage; this factor may have a greater influence on the reduction of yield than the insufficiency of moisture during the growing period. Sievers and Holtz, in studies of silt loam soils and their yields in Eastern Washington (U.S.A.), came to the conclusion that moisture conservation under fallow practices serves its primary purpose in the elaboration of nitrates. They specially state that available soil nitrogen, and not total soil moisture, is the limiting factor in crop production in that region, and that the real basis for fallowing is to produce the maximum amount of nitrogen ready for plant use.—(Journal of Agriculture, South Australia.)



Fitzroy—a popular variety for both grain and green fodder.

YATES' HAND-PICKED SEED POTATOES

As our stocks of Seed Potatoes will be practically exhausted when this booklet is published we do not give particulars of varieties. Customers are asked to write for special Potato Price Lists in the early part of July.

In favourable years we also usually have supplies of the popular varieties during the month of February. Write us then.

SORGHUMS

IN districts where rainfall is a little too low for maize, sorghums have their particular value. They have wonderful adaptability to different soils and climates, and will produce big yields of splendid fodder where maize would fail, and, in addition, the feed value of the grain is almost equal to that of maize.

The early varieties grow quickly, even on poor land and under droughty conditions, and give green feed when most other things are withering. The late sorts grow under similar conditions, and stand well into the winter—even when the flag is frosted the stalks retain their succulence and sweetness—and provide a very palatable and fattening fodder when it is most acceptable.

Many farmers are reluctant to grow Sorghum for fear of poisoning their stock, but Sorghums are too valuable to exclude, and if the following is noted, they can be fed to stock with perfect safety. Firstly it has its best feeding value when the seeds are just hardening, and at this stage of growth there is no danger of poisoning unless frosted or stunted. Most cases of poisoning occur when the plants are half grown and checked by frost or dry weather. The certain method, however, of avoiding trouble is to cut the crop and allow it to wilt for some hours before feeding.

For ensilage, experience shows that Sorghum should be fairly mature before cutting. The stalks may look rather dry, but Sorghums should not be

cut for silage until the seeds are hard. If cut too early the silage is apt to be acrid and inferior to that cut at the right time.

The earliest sowing of Sorghums should be made directly the frosts are over, and the second crop may be planted up to the end of January, but November and December are considered the best months.

In rich, moist land, and where fineness is desired, up to 50 lbs. can be sown broadcast per acre, but in ordinary situations 30 lbs. is ample; it is a good method in such land to sow in drills 3 feet apart, and keep the land between the rows cultivated. In drills, about 10 lbs. per acre is sufficient. Prices vary with the market.

Varieties

EARLY AMBER CANE—The earliest and the best variety to withstand droughty conditions. Largely used on irrigation areas, as less water is required to bring it to maturity.

SUMAC—This is a fairly sweet variety and a very vigorous grower. It is proving a good sort.

PLANTER'S FRIEND—For late crop, as it stands cold weather and retains its sweetness and feeding qualities even after the seed is matured.

SACCALINE — Exceptionally rich in sugar, it is very palatable and fattening to all classes of stock, while its succulence and freedom from "pithiness" after standing through severe winter is most marked.

One of the very valuable habits of Saccaline is its persistent ratooning or throwing up of new growth from the roots when the matured stalks have been cut. It has in several instances stood through the winter, and then when all cut thrown up a fresh crop of fine stalks the following spring, and grown well through the second summer.

COLLIER—A very fine variety, juicy and sweet. One which stands well into the winter; is a clean grower, and has shown a decided resistance to red stain or rust. Its green fodder yield is very heavy and in recent tests on the North Coast it regularly outstripped all other varieties.



An exceptionally fine crop of Saccaline in the Nowra (South Coast) District. *Dept. of Agric. Photo*
FOR PRICES SEE CURRENT PRICE LIST—POST FREE

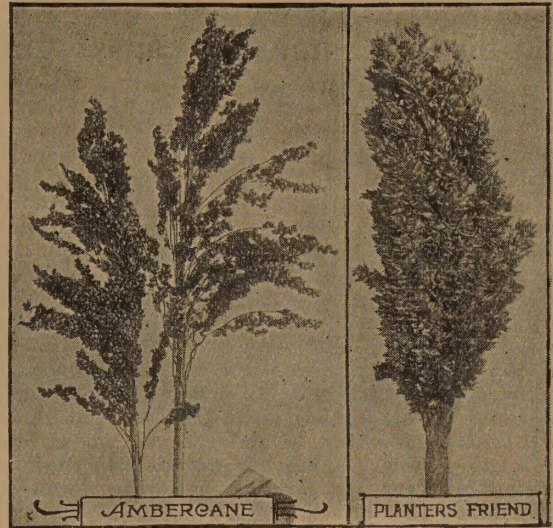
SORGHUMS—Continued

No. 61—Very similar to, and will doubtless be a rival to Saccaline. It is a sweet, succulent, heavy yielder, and is disease-resistant. Matures slightly earlier than Saccaline, but is more frost-resistant and stands longer into the winter months.

WHITE AFRICAN—Each year this variety becomes more popular. It is a heavy yielder and retains its sweet juicy succulence longer than Saccaline. It is disease-resistant and produces strong cones which do not readily lodge. White African is a late variety, should be planted early and requires a long growing season.



Sorghum under test on our trial ground.



GRAIN SORGHUM

In districts where the average rainfall is too limited for the regular growing of Maize, Grain Sorghum is worthy of trial in crop rotations. It has these characteristics:—(1) It will thrive on a lower rainfall than Maize. (2) The grain has a feeding value nearly as great as Maize. (3) The weight of grain produced is good, under fair conditions up to 40 or even 50 bushels per acre may be obtained. (4) It will succeed in soils too poor for Maize. (5) It can be used for fodder or for ensilage when the seed is in the "dough" stage. (6) Even when the seed has been harvested the foliage and upper stems are of some value as roughage. (7) Unlike other Sorghums it is non-saccharine.

Feterita—The most valuable and most used variety for average inland conditions.

Mangolds, Sugar Beet, Field Carrots

MANGOLDS & SUGAR BEET

Wonderful milk producers, and yield immense crops. Sow about September-October; in warm climates an autumn sowing will give a fine crop. Plant in well worked clean land, in drills 30 inches apart, to allow horse cultivator to work and when up hoe to remove any growth of weeds, and if necessary thin out to allow the roots to develop. Five pounds per acre of Mangolds and about eight pounds per acre of Sugar Beet are fair sowings.

YATES' MAMMOTH LONG RED—A very select stock. The roots are of excellent quality, clean, smooth and free from fangs; flesh close grained and full of saccharine. The heaviest cropping Mangold grown.

YATES' CHAMPION YELLOW GLOBE—A very select stock, small top; flesh close in texture, excellent feeding quality.

GOLDEN TANKARD—An excellent keeper. The roots medium size, with deep yellow flesh, and contain high percentage of saccharine.

LONG YELLOW—An excellent variety, very heavy cropper.

SUGAR BEET WANZLEBEN—Half long white roots, sweet and crisp.

GIANT HALF-SUGAR MANGOLD—We keep the two varieties, White and Rose. They are sweeter than the ordinary Mangold and larger than Sugar Beet, combining the quality of the Beet with the weight of crop of the Mangold. Tested against Sugar Beet it yielded twice the crop. Intermediate in size, averaging about one foot in length.

FIELD CARROT

Valuable for all classes of stock, particularly horses. Sow any time in spring or early summer, when the weather is favourable, at the rate of four pounds per acre in drills 30 inches apart for horse work or closer if for hand work.

WHITE BELGIAN—Grows well out of the ground, so it can easily be pulled by hand.

ORANGE GIANT—A rich orange red variety, very handsome and smooth, producing large crops.

NOTES OF INTEREST

An Interesting Method of Combining Lucerne and Cereals

From an article entitled "Intensive Pasturing Methods in Victoria." Agricultural Gazette of N.S.W.

In February it is eaten down close (so close that there is hardly a vestige of green to be seen on the crowns), then irrigated, and cultivated twice with the rigid scarifier as soon as it will carry the horses. The first time the scarifier will only go 2 or 3 inches deep, but the second time it is got down 4 inches, five horses being required to draw a 9-tine implement. Then the drill follows, sowing 110 lb. superphosphate and $1\frac{1}{2}$ bushels of oats or barley—these two cereals being alternated year by year. The sowing is finished by rolling the ground to pack the seed down, and then harrowing to leave the surface loose.

A rapid and abundant growth of lucerne and cereal takes place, and in six to seven weeks sheep are on the ground. A marked decrease in the losses of sheep by bloat (or hoven), has been noted, due to the mixed ration.

It is timely, perhaps, to pause to remark that the mixed feed afforded by the lucerne and cereal is really a solution to the problem of the unbalanced ration afforded by lucerne alone.

From each of the paddocks with barley or oats in association with the lucerne several grazings are obtained through the autumn and winter, the mixture affording a highly nutritious and palatable fodder on which the sheep fatten rapidly. In the spring the stock are excluded, and a crop of hay is harvested. The quality of this mixed hay is very good, it keeps well, and is found to be readily saleable at times when feed is scarce.

Green Fodder for Poultry

The following is taken from a report of a competition held by the Miranda Agricultural Bureau, published in Agricultural Gazette of N.S.W.

Although lucerne is used exclusively in many cases as green fodder for poultry, this practice is not to be commended as the most satisfactory results are not obtained without some variation. The aim should be to have two or three crops to supplement lucerne (which is of course the most important) and avoid having a large number in at one time. It is found in this district that lucerne does remarkably well if sown in rows 2 ft. 6 ins. apart, and top-dressed with manure. Maize is the crop next in importance, and, as it can be grown for eight months of the year, a series of plantings can be arranged. Maximum results will be obtained by sowing the grain thickly in rows 3 feet apart. During the winter months Mulga oats and Thew and Florence wheat, with vetches or field peas, give abundance of fodder of the correct type. For winter feed a fodder with a comparatively low moisture content is needed, the best form of which is found in the winter cereals. Kale (Thousand Headed), a crop which is not grown very extensively, gives remarkable results under all conditions. This crop is a perennial, and if treated well in the early stages will produce a fair supply of fodder consistently over a long period. Kale, rape, and cabbage belong to the "Crucifer" family, and are reputed to have certain medicinal qualities. They are all excellent green fodders.

Rape is often sown in the young stock pens, to ensure a constant supply of this fodder. If this system is to be carried out a mixture of mustard and rape might be used. It has been suggested that Subterranean Clover be used for this purpose, as it

would ensure a more constant supply of fodder of a superior nature. This clover also produces abundance of seed, which would produce another crop the following winter.

During the summer small lots of Hungarian Millet could be sown; this crop grows quickly, and produces a long seed head. This type of fodder is very nourishing and most valuable for young stock, and at the same time it reduces the feed bill.

If growers keep these crops constantly in mind and arrange sowings at suitable times, ample green fodder of a most useful nature will be provided all the year round.

Experience with Kikuyu Grass on the North Coast

From an article in the Agricultural Gazette of N.S.W.

This grass is fast gaining popularity among the dairy farmers on the North Coast on account of its ability to produce a heavy bulk of succulent fodder, its power to withstand heavy stocking, and its usefulness as a change pasture from paspalum for the cows.

The manner in which this grass produces an abundance of green fodder throughout the year, more especially during the warmer seasons, has been well demonstrated by the results obtained at Wollongbar Experiment Farm. A pasture of it was laid down in a prepared soil six years ago, and after being allowed to become established has been continuously grazed since. The pasture has always provided ample fodder; the grass has shown a marked ability to make fresh growth (so valuable for the milking herd), even under adverse conditions and much later into the winter than paspalum and other summer grasses. During one winter the output of new growth was unceasing, and even during a dry spell of over five weeks in July and August no noticeable falling off was observed.

At the time of writing the grass covers the ground in a dense mass to a depth of 15 inches in spite of heavy grazings. A conservative estimate of the carrying capacity of this pasture is three cows per acre. The pasture consists wholly of Kikuyu Grass. The growth is so vigorous as to choke out all other plants.

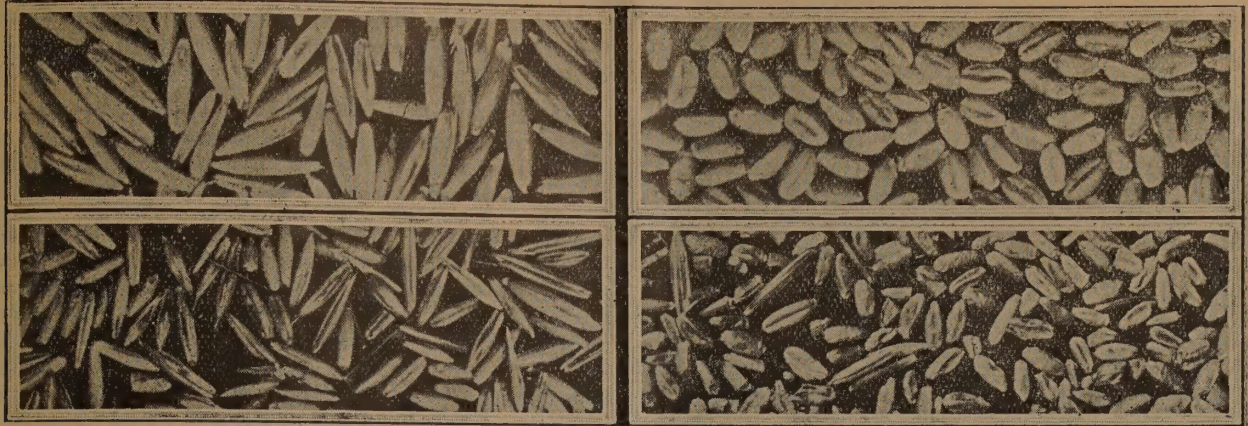
Two years ago roots of this grass were worked into an old paspalum pasture that had just been ploughed, the roots being placed 6 feet apart each way. The pasture is now composed of 70 per cent. Kikuyu Grass. The paspalum is being steadily crowded out, although it came through thickly after the ploughing.

An examination of the root development of this grass will reveal its powers to withstand dry conditions and grazing and to make fresh growth rapidly. There is a dense mass of roots from 5 to 6 inches in thickness, individual roots penetrating to even a greater depth.

In addition to its value to the dairy farmer, Kikuyu Grass makes a good forage crop for pigs, and farmers have begun to plant roots in yards. It is a grass with great possibilities, on account of the ease with which it is propagated and the vigour of its growth. Working horses relish it, eating it so closely as to keep it almost like a lawn.

SUPPLIES OF KIKUYU GRASS ROOTS—We can supply Kikuyu Grass Roots at practically any time of the year. For prices see page 2 of Current Price List sent you herewith. Postage and Packing are charged extra—9d. for 50, 1/- for 100. For full description of this grass see page 2 of this catalogue.

SEED GRAIN FOR GREEN FODDER



Re-machined and Tested Seeds grow strong, even, healthy crops

THE value of using only the heaviest and puest samples of Seed Oats or Seed Wheat for Green Fodder, has now been proved many, many times worth the slight extra cost per acre for such seed. In unfavourable seasons it may mean the difference between a crop and a failure.

With the high cost of labour and high land values, it becomes more and more necessary to strive after the biggest yield and highest cash returns possible from every acre of cultivated land. To attain this it is essential to have well prepared land and strong-growing, healthy pure seed.

Yates' Re-machined and Tested samples, as illustrated above at the top, are prime seed heavily-graded and re-machined and tested for germination. Note (at bottom of illustrations) the large quantities of weak, shrivelled and broken seeds, and foreign weed seeds which have all been removed. Yates' Re-machined and Tested Seed Grains produce strong, even, healthy crops—the kind that make farming a payable proposition.

SEED OATS

We have found Algerian Oats to be by far the best variety for grazing; being of finer growth it stands a good deal of trampling, and its spreading habit and strong root growth prevent it from being easily pulled out. We recommend that a dressing of 1 cwt. of Bondust or Superphosphate be used, also five or six pounds of Clover seed per acre be planted with the Oats. This will give a more balanced ration and so increase the milk flow; it will also maintain the fertility of the land, and give a good stubble-feeding during the following autumn. If shut up in the early spring a crop of hay may be harvested in addition.

For cutting purposes some of the vigorous-growing early Oats like Mulga, Sunrise, etc., may prove superior in the milder climates; these are tall-growing and have fleshy stems, and come very quickly; in fact, they grow almost as quickly as Barley and are superior to it for feeding value. They will, however, not stand extremes of frost like the Algerians, and, on account of their coarse fleshy growth, do not stand trampling and hard grazing so well.

For late sowing in the cold districts the Heavy varieties are preferred. Varieties usually available: Algerian, Myall, Guyra, Buddah, Mulga, Ruakura, Sunrise, Warrigal, Heavy White, Heavy Black.

SEED WHEATS

Wheat is largely used for green fodder and for hay, as well as being the world's most important grain crop. It stands dry conditions better than almost any other grain, and is therefore of great value for fodder and for hay, as well as for grain in districts of low rainfall. It will often give good crops in seasons which cause oats to be a failure.

Following are the varieties which are usually avail-

able, but as supplies are nearly always short of demand, early enquiries are invited.

Thew and Florence are of a special value for green fodder under coastal conditions.

Sow up to 2 bushels per acre together with a dressing of 56 lb. to 112 lb. superphosphate per acre, according to location and quality of the land.

Varieties usually available: Florence, Thew, Canberra, Soft Federation, Hard Federation, Yandilla King, Marshall's No. 3, Waratah.

BARLEYS

Barley is the earliest of the grain crops to mature, and in this earliness lies also its great value as a green fodder crop. It is one of the sweetest fodders grown, and is relished by all classes of stock.

For practical purposes the Barleys may be classed into three, namely:—Cape Barley, Skinless Barley, and English or Malting Barleys. Cape Barley is the one most generally used for green fodder; it grows very quickly, but as it is not so hardy as other grain, it is most suitable for early use in cold climates. Skinless is also a good variety, coming very early to maturity, and affording two cuttings; it should be grazed after each cutting; the close feeding seems to cause it to come again with renewed vigor. English or Malting Barley is usually grown for grain for malting purposes, but there are two varieties which absolutely stand out as green fodder sorts, viz., Tra-but and Pryor.

Tra-but is a heavy yielder, and abundant stooler, maturing two or three weeks earlier than Cape. Pryor is similar to Tra-but, and is very leafy, with fine succulent stems.

These Barleys all make excellent silage. The addition of Field Peas when sowing makes a combined cereal-legume crop of high nutritive value.

Barley should be sown broadcast at the rate of 2 bushels per acre; if drilled, 1 bushel should suffice.

FODDER CROPS For SPECIAL PURPOSES



Sunflower in the field. Yields of 20 tons to the acre are obtained

MELONS, CATTLE—A mixture of suitable sorts. Generally the Cattle Pumpkins are to be preferred, but the Melons form a juicy stand-by fodder.

MUSTARD—For a quick green fodder for fattening lambs, Mustard can be recommended. Sow eight pounds per acre. It is also frequently mixed with Rape. It is ready a few weeks after sowing.

SILVER BEET—This plant is grown for the green tops, not for the roots, as with other Beets. It is found in New Zealand that the foliage is reproduced so quickly after being eaten down that it makes an excellent crop for sheep fattening. Plant in rows, 30 inches apart, so that the land can be hoed, and thin from 9 to 12 inches apart in the rows. Sow three to four pounds per acre.

SALTBUSH—This has been aptly described as the plant that makes fodder when feed is most needed. It is not difficult to raise from seed, cuttings or roots. Seed should be sown in the autumn or early winter, either direct or in a nursery bed and later transplanted. (Continued below illustration.)

BUCKWHEAT (Japanese)—A splendid quick yielding fodder crop and valuable for fowls. Japanese is the largest and most vigorous variety. Sow 20 lbs. per acre.

CANARY SEED—So largely grown for bird seed. It may also be used for hay purposes, requires similar culture to wheat; sow 17 to 2 lbs. per acre. We have Queensland grown seed, and extra large seed, Morocco grown.

SUNFLOWER—Valuable, when growing, as shelter to young crops, and the seed forms a most excellent food for poultry and in fact all stock. Eight to twelve pounds will sow an acre in rows three feet apart, and it requires the same soil and climatic conditions as Maize. In U.S.A. it is now being used quite a lot for ensilage; it has been found of considerable value for this purpose. (Black Seeded or Striped).



Artichokes are unexcelled for Pig Feed



Portion of a Paddock of Saltbush (*Atriplex nummularia*) on a Coonamble Station. It is reserved for use in drought periods.

Det. of Agric. Photo.

Saltbush—(continued)

On account of its thick succulent foliage it has proved very useful as a fire-break. We have two varieties:—**Atriplex nummularia** (Old Man Saltbush), grows 6 to 10 feet high with numerous branches, and **Atriplex semibaccata** (Creeping Saltbush), specially suitable for sheep.

We think that greater consideration than hitherto might well be given this plant by graziers in our western slopes and plain country. One pound should seed about an acre.

FODDER CROPS

for Special Purposes—Continued

Jerusalem Artichokes for Pig Feed

These are similar to Potatoes, and require the same cultivation, but we would plant in rows two to three feet apart. A most desirable and delicate vegetable. They yield very heavy crops and are excellent for pig feeding, especially where pigs can be turned in to root them out (see photo on opposite page), their fattening value is 25 per cent. greater than potatoes. Four to six cwt. will plant an acre.

A Tuberous Crop that is a Gold Mine

It used to be thought that dairy by-products were absolutely necessary to fatten pigs up properly, but it is now being realised that this is a fallacy. In other countries enormous numbers of pigs are raised and fattened largely by grazing them on fodder crops, notably Jerusalem Artichokes, leguminous crops, etc.

The fodder value of Artichokes is very similar to that of Potatoes, but the former have a slightly higher protein and fat content. In feeding Artichokes to pigs it is best to turn the animals into the crops to root out the tubers. Young growing pigs make considerable growth when fed with Artichokes in this manner for a short period, the exercise obtained in harvesting or rooting up the tubers having a beneficial effect. Few foods are more relished by pigs, and they are especially suitable for pregnant sows and also sows reduced in weight and condition after sucking and weaning big litters.

Mr. E. Breakwell, in his book, "The Grasses and Fodder Plants of New South Wales," writes about Jerusalem Artichokes:—

"Good food for pigs; tubers contain large amounts of sugar and gum, and will increase the milk flow. This crop has been grown with great success at Hawkesbury Agricultural College, the tops being used for silage, and the pigs turned in to eat the tubers. There are always sufficient tubers left in the field to produce the following year's crop. Yields of nine tons per acre have been obtained.



Types of the strong, healthy Artichoke Tubers which we can supply during the months of June, July and August.



A heavy crop of the profitable Gramma Pumpkin.

Cattle Pumpkins

Cattle Pumpkins make an excellent winter feed for milking cows and young calves. Early spring sowing is best as it allows them plenty of time to ripen and they then keep much longer. Store in a dry airy shed leaving the short stalk attached. 1 lb. will sow an acre. We keep the following varieties:—

Mammoth Cattle—Very large, heavy cropper.

Gramma—A long shaped variety, big yielder (see special article below).

Mixed Cattle—Including types of Ironbark and similar varieties, excellent for productiveness and keeping quality.

Gramma Pumpkins as Cow Fodder

That the Gramma Pumpkin is of great value for cow fodder has been amply proved by Mr. E. H. K. Downes, of Camden, who grows three or four acres of this crop every year. It is a heavy yielder in normal seasons, but in very good seasons Mr. Downes estimates that nearly forty tons of Pumpkins have been produced on every acre, and says that no other fodder crop gives him an equal return. The Pumpkins are sliced on a Turnip Slicer and fed to the cows with silage or other material to make a balanced ration. Some 60 tons are now stored away for this purpose.

SUBTERRANEAN CLOVER FOR THE SOUTH COAST.

Mr. J. F. L. —, "Nethercote," via Pambula, writes 31/5/29:—

..... I could have written sooner, but I wanted to make perfectly sure that it would be alright, and I can tell you that I am more than pleased with it. I can now safely say that it is a good addition to the pastures, and that it has done remarkably well with me. I have since sowed about 100lbs. of the seed on my property with other grasses at the rate of 2lbs. to the acre, and now in most places the Subterranean Clover is as thick as it can grow. I would strongly advise anyone sowing down grasses to add a couple of pounds of Subterranean Clover to the acre.

A Profitable Side Line!—

MARKET GARDEN CROPS

FOR SPRING AND SUMMER PLANTING

IN districts within reasonable distance of the centres of population and with a fair average rainfall, it is often well worth while for the farmer to reserve some of his best land for vegetable production for market.

The essentials for successful market gardening are good soil, good rainfall or facilities for irrigation, rotation of crops, intelligent use of fertilisers and regular cultivation.

Few crops average out as well as Cauliflower, Cabbage, Pea, Bean, Swede, etc., if grown under suitable conditions. It is wise first to decide what crops are best suited for your conditions and then to grow them consistently on a well planned rotation. In this way you will obtain better returns than the grower who is constantly changing over and thereby often meeting a "glut" of the particular line he is growing.

For best varieties, time to plant and for cultura directions, farmers should be guided by local experience and the information given in Yates' Annual and Yates' Garden Guide (1s., post free).

The higher returns regularly obtained by experienced men are evidence that skill and care are very necessary in this branch of farming. Where conditions of soil and season are not favourable, and where varieties have been sown unsuitable to the time of planting or the district, the crop is likely to vary considerably in type, season of maturing and uniformity. Our advice is to grow those varieties your neighbours have proved to do well, and then make your own experiments in a small way as to the suitability of later introductions and improved sorts.

Attention is directed to the Conditions of Sale and Non-Warranty set out on page one and on all invoices.

BEANS

For the warmer districts round Sydney and on the North Coast, beans are the prevailing market crop, and in those districts where early crops are possible very handsome returns are being obtained. The same remarks as to the desirability of growing this crop apply as they do to Peas. As to varieties, Canadian Wonder is the standard sort, but there are inferior strains offering. Yates' Selected Canadian Wonder are the prime samples offering of a heavy cropping type. A new variety which is quickly becoming known and sought after is **Feltham Prolific**, which is very early and an exceedingly heavy cropper. Usually two bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop. Prices on application.

CABBAGES

Cabbages do best on rich deeply worked soil, and are largely grown on the cooler upland country near Sydney. The main planting should be made in December, January and February in most districts. Raise the plants in seed beds, transplanting out in rows when large enough to handle, 24 to 30 inches apart each way. About $\frac{1}{2}$ -lb. of seed is required to raise plants for one acre. The two leading sorts are:—

YATES' EARLY DRUMHEAD.—One of the finest market cabbages grown. There is no better variety for standing the hot summers. The heads are large and solid, and in good seasons it matures in four months. We offer Yates' Specially Selected Strain, grown on our own Seed Farm. This strain has given every satisfaction. We also stock European-grown seed.

SUCCESSION.—This and Yates' Early Drumhead are the two main cabbages used by market growers throughout Australia. It is a week or two earlier than Drumhead, otherwise very similar. A good carrier and the best and longest standing cabbage for autumn planting for spring use. Our stock is supplied by **Peter Henderson**, the originator (see

illustration next page), and has proved an outstanding one in our trials. We can also supply good European seed.

Other sorts likely to be of interest and worth trying in certain districts are:—**Yates' Vanguard**, **Yates' Utility**, **Copenhagen Market**, which are all of the early solid, round head type; **Improved St. John's Day**, and **Early Jersey Wakefield**.

CAULIFLOWERS

These are somewhat uncertain, but where success is attained the profits are usually exceedingly satisfactory. The main thing is to grow them in good rich soil and rush them on quickly.

In dry weather they should be well watered, especially just after planting out.

Plant in December, January or February—this will generally give the best results.

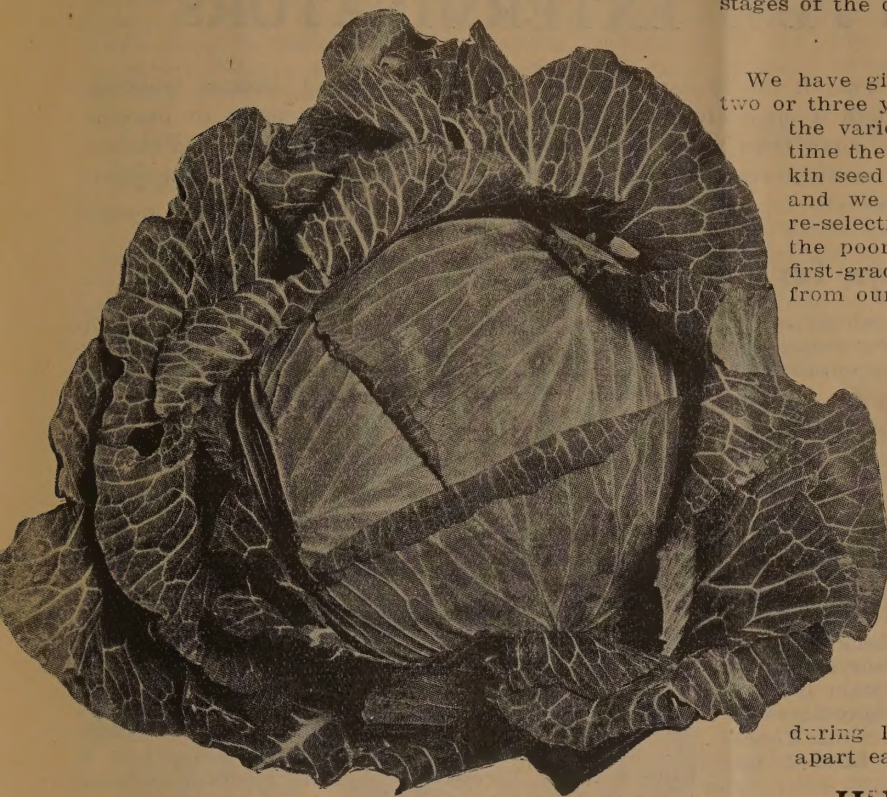
Sow $\frac{1}{2}$ -lb. of seed for every acre of plants required. Varieties suitable include our two Specialities:—**Yates' Phenomenal Early** and **Yates' Phenomenal Maincrop**, which are rapidly capturing the Sydney Market; **Early Italian Giant**, **Veitch's Autumn Giant**, **Late Italian Giant**, and **Yates' Metropole**, which are self-protecting varieties, coming in from five to eight months in the order listed.

MELONS

There is always a demand for well grown fruit, and this applies particularly to the Rock Melon, which is such a favourite. Both Water Melons and Rock Melons can only be sown in the Spring when the ground is warm. Light rich well manured soil and plenty of warmth and moisture will produce splendid crops. The Rock Melons particularly in favour for market growing are **Rocky Ford**, **Early Hackensack**, **Irondequoit**, and **Paul Rose**, while in Water Melons growers usually ask for **Yates' Market Wonder**, **Kleckley's Sweets**, **Cuban Queen**, **Tom Watson** and **Halbert Honey**.

MARKET GARDEN CROPS—Continued

The Superlative Market Cabbage



Henderson's Succession—Grown and supplied by the originator,
P. Henderson, New York

CUCUMBERS

Cucumbers are a paying proposition to many small farmers in moist, mild districts. The seed must be sown in the Spring, when all danger of frost is over, in hills about four feet apart each way. The soil must be in good condition and be liberally manured, and to produce fruit of true character the plants must not be checked in any way. About $\frac{1}{2}$ -lb. of seed is sufficient per acre.

For the Sydney market **Improved White Spine** is undoubtedly the best for the main supply, it is of medium length, thick and solid; **Early Fortune**, a darker coloured strain of White Spine has been specially evolved for market growers; **Apple Shaped** is another good Market sort rapidly gaining favour with buyers; as also is our new variety of this type, **Yates' Crystal Apple**, a pure white skinned sort.

PEAS

In the Highland districts around Sydney and on the Tablelands, many farmers now devote a portion of their holding to the growing of green peas for the Sydney market, and in recent years this has proved very profitable. The growing of peas or beans for the vegetable market is excellent practice from a rotation point of view; it rests the land from ordinary farm crops, gives it the advantage of a leguminous crop, and leaves it in an improved condition for succeeding crops. A fair quality of land and a reasonable use of suitable manure are advisable for the best results. The most favoured varieties for market gardeners are:—**Witham Wonder**, **Richard Seddon**, **English Wonder**, **Greenfeast**, and **Yorkshire Hero**, and we shall be pleased to quote on application. Usually 2 bushels per acre is a good sowing, and we advise sowing in drills far enough apart to

permit of frequent horse cultivation in the early stages of the crop.

PUMPKINS

We have given special attention during the last two or three years to careful Trial Ground Tests of the various strains of Pumpkins. For a long time the ordinary commercial stocks of Pumpkin seed have not been altogether satisfactory, and we therefore set out, by selecting and re-selecting the better strains and eliminating the poorer type, to make up a list of only first-grade reliable sorts. Information gained from our trials showed that some of the older types have been entirely superseded, and also that the higher costs necessary in the production of the improved strains are more than justified.

We consider that the three finest types in cultivation are **Yates' Queensland Blue**, a pumpkin of exceptionally fine quality and flavour, dark skin and beautiful golden flesh; **Yates' Triamble**, the well-known distinctive three-cornered variety, and **Yates' Select Crown** (Sydney Type), a re-selection from the old Crown strain, and superior to it in quality and productiveness. Sow at the rate of 2 lb. per acre

during late spring, in hills, and about 8 ft. apart each way.

HUBBARD SQUASHES

It is our opinion that the Hubbard varieties of Squash would be even more extensively grown if those who do not know them would but try them. They are classified as winter varieties, this means that they are later than the summer varieties in maturing, and keep excellently when properly stored. In this respect they are like the better class pumpkins. The fruits mature in about four months from planting the seed, and the yields are very satisfactory. The flavour of these Squashes is all that can be desired, the flesh being dry, mealy, sweet, and altogether delectable. We have the **Blue**, **Green**, **Golden** and **Warted** varieties. For detailed descriptions, see Yates' Annual.

TOMATOES

Tomatoes are now grown very extensively and are yielding very good returns to those marketing clean, sound, well-graded fruit.

For instructions and general information regarding Tomato culture for market, we would refer readers to our Tomato booklet (post free on application). We are offering varieties claimed to have more or less resistance to the wilt disease, and we believe that it is through this quality of "resistance" when more fully developed that the wilt disease will be overcome. In the meantime we suggest these varieties be tried out under growers' local conditions, and that the market crops, especially the early planted areas, be sprayed every fortnight with Lime Sulphur or Bordeaux Mixture.

The useful varieties for market are **Yates' Earli-winner**, **Yates' Harbinger**, **Earliana**, **Chalk's Early Jewel**, **Bonny Best**, **Burwood Prize**, and **Stone**.

The different varieties only show their true character under favourable conditions; two ounces should raise sufficient plants for one acre. See Yates' Annual for descriptions.

SPRAYING PREPARATIONS

AND OTHER PEST EXTERMINATORS

The timely use of a correctly mixed spray is the surest preventative of insect and fungus troubles. Spraying must be done consistently, and it must always be remembered that it is easier to prevent disease or combat them at an early stage than when serious and widespread. Spraying should always be done very thoroughly, and it is particularly necessary that the liquid reaches all parts of the plant, especially the undersides of the leaves.

Suitable Sprays for Different Kinds of Pests

There are three main classes of pests which can be controlled by a spray; in the following paragraph these are described and suitable sprays recommended.

INSECTS THAT EAT OR CHEW (such as Pumpkin Beetle and similar chewing bugs, Codlin Moth, Cabbage Grub, Caterpillars, Slugs, Snails, Crickets, Beetles, Grasshoppers). To combat this type of pest it is necessary to introduce some poison on to the leaves of the plants attacked so that the insects will eat it when they are eating the leaves. By far the most important for this purpose is Arsenate of Lead. This preparation can, if necessary, be mixed with Lime Sulphur each at their respective strengths to make a complete chewing insect and fungus spray. Another combined spray for dealing in one operation with Codlin Moth, Woolly Aphis and Scale Insects, can be made by mixing the following ingredients in the proportions mentioned:—Soft Soap, 8 lbs. Yates' Nicotine Sulphate, 8 oz., Arsenate of Lead 1 lb., Water 50 gals.

In some cases Slugs, Snails, Pumpkin Beetles and Cabbage Moth are successfully treated by the use of a dusting powder, preferably in the early morning while the dew is on the plants, consisting of four parts of freshly slaked Lime to one part of Tobacco Dust.

As many of these preparations are poisonous they should be kept away from children and domestic animals.

"RELIABLE" ARSENATE OF LEAD POWDER (1lb. making up to 50 gals. spray); 1/- ¼lb.; 1/9 ½lb.; 2/6 lb.; 7lb. lots, 2/3 lb.; 14lb. lots, 2/- lb.; 28lb. lots, 1/10 lb.; 56lb. kegs, 1/8 lb.

YATES "HAROLA" LIME SULPHUR (1 gal. makes 10-40 gals. spray (according to purpose required). In sealed tins, 1 pt., 1/3; 1 qrt., 1/9; ½ gal., 2/-; 1 gal., 3/6; 2 gals., 6/6; 4 gals., 8/-; 42 gal. casks, 1/9 per gal. (casks free and not returnable). **Packing Charges** up to 1 gal., 6d. per parcel; 2 gal., 9d.; 4 gal. or more and less than cask lots 1/- per parcel. Cask lots do not require packing.

"RELIABLE" BORDEAUX POWDER—1 lb. makes up to 10 gals. according to purpose required). 1/6 lb.; 5lb. lots, 1/4 lb.; 10lb. lots, 1/3 lb.; 20lb. tins, 1/1 lb.

HARBAS (1 gal. makes 20 to 30 gals. spray). In sealed tins. 1 pt., 1/6; 1 qrt., 2/3; ½ gal., 3/6; 1 gal., 6/-; 2 gals., 11/-; 4 gals., 16/-; 46 gal. drums, 4/- per gal. (drums free and not returnable). **Packing Charges** up to 1 gal., 6d. per parcel; 2 gals., 9d.; 4 gals. or more and less than cask lots, 1/- per parcel. Cask lots do not require packing.

SUCKING INSECTS (such as Aphis, Scale, Thrip, Red Spider, Mite, Mealy Bug, Woolly Aphis, Rutherglen Fly). These penetrate the outer surface and rob the tissues of the nutritive saps and juices. The only successful way of treating them is with some liquid which will destroy them when it comes in contact with them. Benzole Emulsion is used for Thrip and Aphis, and it is also one of the few successful sprays for the Rutherglen Fly; in the latter case, however, it does not kill by contact, but makes the foliage and stems distasteful and repellant. Harbas is used for Scale Pests on fruit trees, while another very important preparation is Yates' Nicotine Sulphate which is specially useful in the case of Aphis, Green Fly, Thrip, Mealy Bug, etc.

FUNGUS DISEASES (such as Black Spot, Oidium, Mildew, Leaf Curl, Rust, Irish Blight, Scab). Quite the most important spray for this class of pest is Lime Sulphur. Directions should be followed and care taken that the strength is suitable to the plants being treated. Bordeaux Powder is used a good deal for fungus diseases on fruit trees, but more largely for the prevention of Irish Blight on Potatoes and similar diseases on Tomato Plants. For Mildew on Roses dusting with Flowers of Sulphur while the dew is still on the foliage is a simple and good remedy.

BENZOLE EMULSION (in paste form), 1 lb. makes 5 gals. spray, per lb. tin, 1/9

YATES' NICOTINE SULPHATE (Black Leaf 40). (1 oz. makes about 6 gals.). In bottles containing 1 oz., 1/6; 2 oz., 2/6; 4 oz., 3/9; in tins containing 8 oz., 7/-; 16 oz., 12/-; 32 oz., 22/6

TOBACCO DUST. 3d. lb.; 7lbs., 1/3; 14lbs., 2/3; 28lbs., 4/-; 56lbs. and over, 15/- cwt.

COOPER'S WEEDICIDE—A Poisonous mixture for the destruction of weeds and vermin, 1 pt., 2/6; 1 qrt., 4/6; 1 gal., 12/6; 5 gals., 10/6 gal., in drums 5/- extra and returnable.

"265" SNAIL EXTERMINATOR—1½ lb. tin, 1/6; 2½ lb. tin, 2/6; 5 lb. tin, 4/6

YATES' GARDEN GUIDE

Will give you much more detailed information as to the method of dealing with the various pests. Every gardener should have a copy.
1/- POST FREE.

None of the above Prices include Freight or Postage, which is extra in all cases

SPRAY PUMPS

In the equable climate of Australia insect fungus and other pests are likely to do considerable damage unless controlled by timely spraying. To do this efficiently and with ease a well designed and soundly made pump is necessary. For gardens, orchards, and any moderate areas, the following are recommended. Select a good Pump and after each use pass clean water through it, to keep the valves and working parts in good order.

The "Rega" Bucket Pump Model A - 27/6

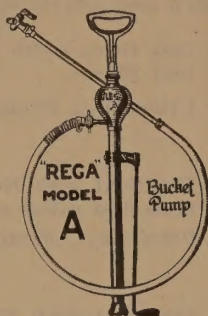
Postage: N.S.W., 2/-; Other States, 3/8

Suitable for the Garden, Small Orchard, Poultry Farm, Garage, Lime and Whitewashing, etc.

Model B - 25/-

Postage: N.S.W., 1/9; Other States, 3/2

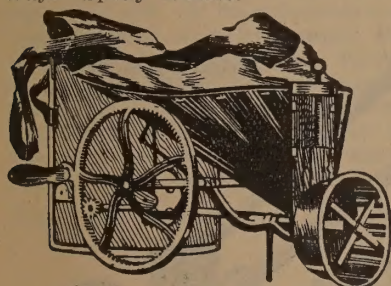
This Model is a little smaller than the Model A, and manufactured to meet the need for a cheaper Pump. This Pump has the same effective power and is equipped with the same Patent "All Ways" Spray Nozzle.



The Mysto Knapsack Sprayer (No. 3)

These are splendid pumps for general use, well designed and strongly made. They are easily carried on the shoulders, and are used very largely in Great Britain for spraying potatoes for Irish Blight, as well as for fruit trees, etc. We can thoroughly recommend them, especially for spraying Bordeaux Mixture. The tank is made of copper, well coated internally with tin to prevent corrosion when using Lime-Sulphur, and there is a good agitator. The nozzle is of the double Vermorel type. Price, 110/-, freight extra. Weight packed about 26lbs.

MYSTO (No. 1)—Similar to the above, but without the coating of tin inside the tank. Price, 100/-; freight extra. Weight packed, about 26lbs.



The "Cahoon" Seed Sower

A strong well-made machine capable of giving long and satisfactory service. Having filled machine and set gauge as per instructions, commence walking at ordinary pace, giving handle one complete turn each step. This will give a fine even sowing. Price, 28/-, Postage; N.S.W., 3/-; Other States, 5/8.

For sowing broadcast Lucerne, Clovers, Sudan Grass, Millets, Pasture Grasses, etc., and small areas of Seed Grain, these machines are excellent. We use them on our own farms for sowing Lucerne, Clovers, etc., and we find them of considerable value.

FERTILIZERS

WARNE'S HYDRATED SHELL LIME—As a protection from insects, slugs, snails, etc., Lime is very useful for dusting on and around the plants; and this Shell Lime sticks to the foliage much more than ordinary Lime. Lime also makes soils sweet and friable.

In packages. 4lbs. 1/- each, 7lbs. 1/6 each, 14lbs. 2/6 each.

In bags. 56lbs. 6/6 each, 112lbs. 12/6 cwt., 1-ton lots and over £12/10/- ton.

HEAVY and continuous farm crops and good quality flowers and vegetables cannot be grown without manure.

Ordinarily there is nothing to equal stable or farmyard manure, but for farm use it is impossible to obtain in Australia in required quantities. Artificial manures, however, have a very great value, especially if the humus content of the soil is kept up by crop rotation and green manuring. For general purposes superphosphate is an excellent fertilizer, but the following special manures are superior for their respective crops.

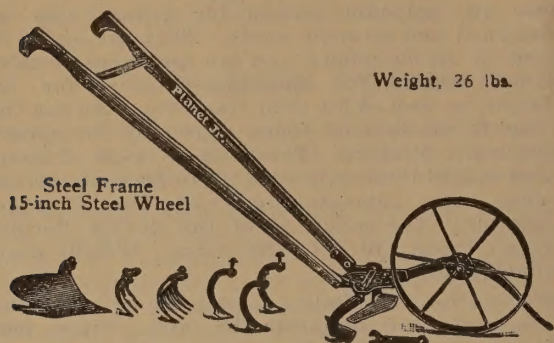
None of the above Prices include Freight or Postage, which is extra in all cases.

MANURES.				Cwt.	56lbs.	28lbs.	14lbs.	7lbs.
				s. d.	s. d.	s. d.	s. d.	s. d.
Superphosphate	..	..	..	8 0	4 6	2 9	1 6	1 0
Bonedust	..	..	..	11 6	5 9	3 0	1 9	1 0
Blood and Bone	..	..	..	11 6	5 9	3 0	1 9	1 0
Hydrated Lime	..	..	..	12 6	6 3	4 6	2 6	1 6
Sulphate of Ammonia	..	..	..	20 0	10 0	5 6	3 0	1 9
Sulphate of Potash	..	..	..	20 0	10 0	5 6	3 0	1 9
Nitrate of Soda..	..	..	..	20 0	10 0	5 6	3 0	1 9
Yates' Plant Food	..	..	..	16 6	8 3	4 3	2 3	1 3
A.Y. Sweet Pea Manure	..	..	..	17 6	8 9	4 6	2 6	1 6
A.Y. Flowers and Shrubs Manure	..	..	..	15 6	8 0	4 3	2 3	1 3
A.Y. Potato and Tomato Manure	..	..	..	16 6	8 6	4 6	2 6	1 6
A.Y. Cabbage and Cauliflower Manure	..	..	..	15 6	8 0	4 3	2 3	1 3
A.Y. Onion Manure	..	..	..	15 6	8 0	4 3	2 3	1 3
A.Y. Pea and Bean Manure	..	..	..	12 0	6 6	3 6	2 0	1 3
A.Y. Pumpkin and Melon Manure	..	..	..	15 6	8 0	4 3	2 3	1 3
A.Y. Lucerne and Clover Manure	..	..	..	12 0	6 6	3 6	2 0	1 3
A.Y. Maize and Green Fodder Manure	..	..	..	15 0	7 9	4 0	2 3	1 3
A.Y. Maize (for Grain) Manure	..	..	..	13 0	6 9	3 6	2 0	1 3
A.Y. Stone Fruit and Strawberry Manure	..	..	..	15 6	8 0	4 3	2 3	1 3
A.Y. Citrus, Passion and Grape Manure	..	..	..	16 6	8 3	4 3	2 3	1 3
A.Y. Special Lawn Manure	..	..	..	16 6	8 3	4 3	2 3	1 3
A.Y. Rape and Root Crop Manure	..	..	..	13 0	6 9	3 6	2 0	1 3
A.Y. Hay and Pasture Manure	..	..	..	13 0	6 9	3 6	2 0	1 3
Powdered Carbonate of Lime,	5s.	6d.	bag.					

PLANET JR. IMPLEMENTS

For the FARM, ORCHARD and LARGE GARDEN

The intelligent use of these wonderful labor-saving implements is a big factor in the successful working of market gardens, orchards, etc. Provided reliable seeds only are sown, regular and accurate planting, followed by consistent cultivation, will do more than anything else to ensure big returns. We therefore offer these machines with every confidence. They are the strongest and most useful on the market, and have an excellent reputation for design and durability.



Weight, 26 lbs.

No. 16—SINGLE WHEEL HOE, CULTIVATOR, RAKE AND PLOUGH.

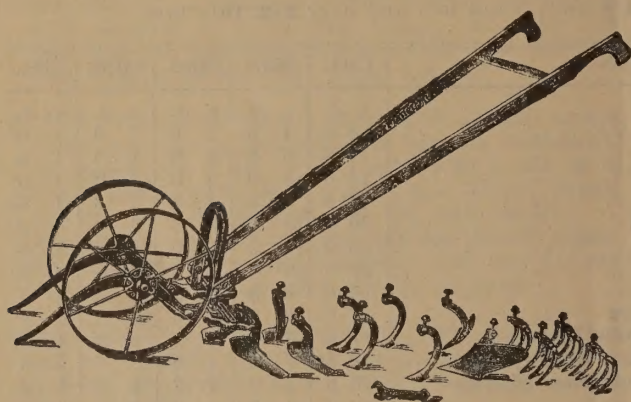
While Single Wheel Hoes do not accomplish as wide a range of work as the Double Wheel Hoes, they are lighter, and for steady all day work in the market garden, many growers prefer them. This machine can be used to hoe both sides of the row at once while the plants are small (special axle bolt and ferrules needed and furnished as extras). As the illustration shows, the equipment includes one pair of 6 in. hoes, three cultivator teeth, one large plough, one 7 in. rake, one 4 in. rake and leaf guard.

Price, 47/6. Freight extra. Weight packed about 30lbs.

No. 17.

Identical with No. 16 except that the equipment does not include the two rakes.

Price, 40/- . Freight extra. Weight packed about 27lbs.



No. 11—COMBINED DOUBLE AND SINGLE WHEEL HOE.

The most completely equipped Wheel Hoe we offer. The height of the machine is adjustable for different work, and can be made to straddle rows 20 ins. high; and the various attachments are easily put on or removed. As the illustration shows, the attachments include—One pair of large hoes, one pair of small hoes, four cultivator teeth, one pair ploughs, one

pair three-tooth rakes, one pair five-tooth rakes, two leaf lifters.

Price, 70/- . Freight extra. Weight packed about 40lbs.

No. 12.

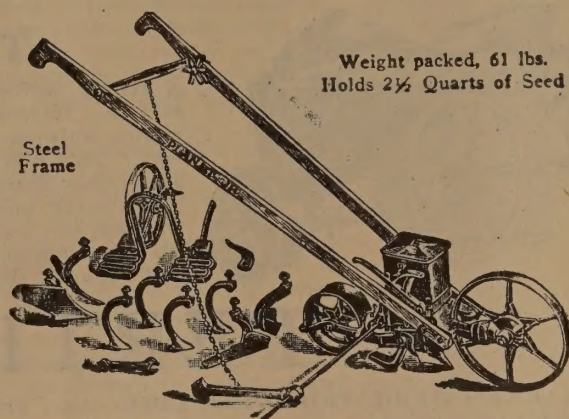
Identical with No. 11 except that the smaller set of hoes and rakes are not included.

Price, 55/- . Freight extra. Weight packed about 36lbs.

No. 13.

Identical with No. 11 except that the equipment is limited to one pair of large hoes.

Price, 42/6. Freight extra. Weight packed about 30lbs.



No. 25—COMBINED HILL AND DRILL SEEDER, DOUBLE AND SINGLE WHEEL HOE, CULTIVATOR AND PLOUGH.

An excellent hand machine for either garden or farm. It will sow almost all varieties of seeds, and is one of the most useful tools one can have. The equipment includes:—One pair 6 in. hoes, four cultivator teeth, one pair of ploughs, two leaf guards and a marker. The hopper holds 2½ quarts.

Price, £5/7/6. Freight extra. Weight packed about 61lbs.

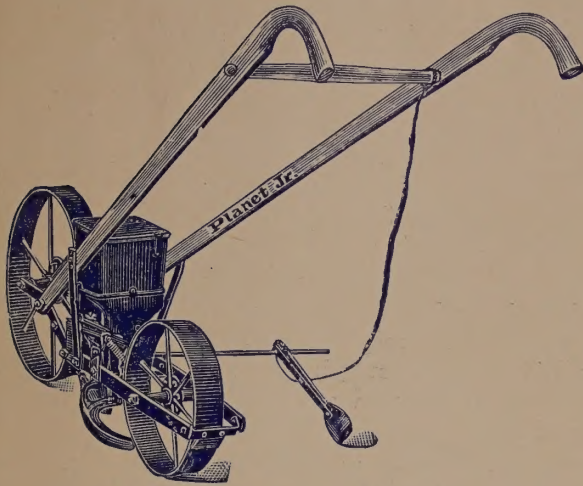
No. 4.

Very similar to No. 25 except that it has one less cultivator tooth, only one plough, and one leaf guard. Price, £4/10/- . Freight extra. Weight packed about 50lbs.

Care should be taken to—

- A.—Regularly oil all moving parts.
 - B.—Clean off all dirt and trash before putting machine away after use.
 - C.—Keep machine under cover when not in use.
- If these details are attended to, the time spent will be many times repaid by prolonged life and low cost of replacements.

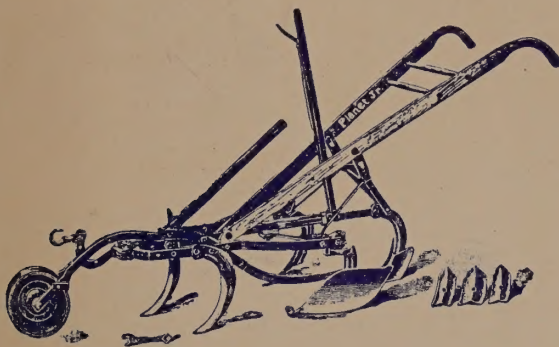
PLANET JR. IMPLEMENTS—Continued



No. 26—Drill Seeder

This is essentially a seed sower for all types and conditions of soil. It incorporates a new system of dropping the seed, and the hopper, which holds 4 quarts, is quickly removed, which facilitates emptying out surplus seed. The extra substantial wide tread wheels, front and rear, are not only easier running but cover the seed more evenly. Another good feature is that the seed shut-off operates independently of the index setting and cannot disturb it.

Price, £5. Freight extra. Weight packed about 60lbs.



No. 8—Horse Hoe and Cultivator

This horse machine is a general favorite, being complete and easily operated; it is extremely sturdy, well braced and adaptable to any conditions. The equipment consists of:—Four 3 x 8 in. cultivator steels, one 4 x 8 in. cultivator steel, two 6 in. hillers, one 7 in. shovel and depth regulator.

Price, £5/2/6. Freight extra. Nett weight 83lbs.

No. 7

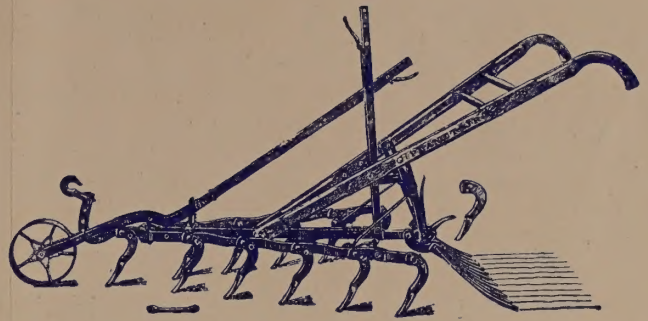
Identical with No. 8, with the exception of the depth regulator which is not included.

Price, £4/17/6. Freight extra. Nett weight 77lbs.

No. 9

Identical with No. 8, except that the wheel is not adjustable by lever and it is not fitted with depth regulator.

Price, £3/17/6. Freight extra. Nett weight 71lbs.



No. 90—Twelve Tooth Harrow, Cultivator and Pulveriser

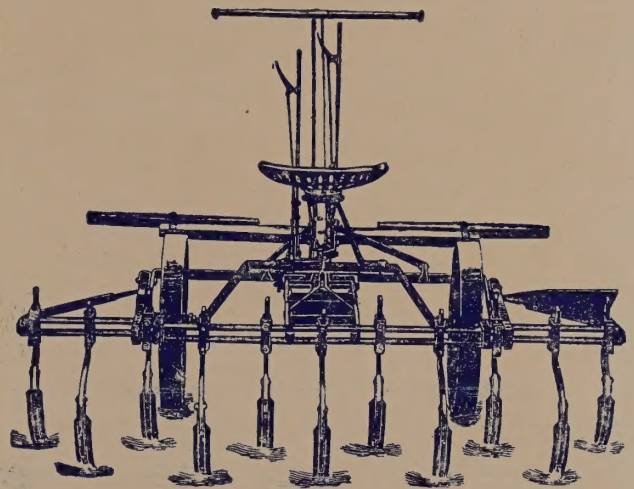
An extremely useful combination tool which leaves as fine surface marks as if it had been raked by hand. There is an extra tooth to take the place of the pulveriser if it not required. The chisel-shaped teeth are 1½ ins. wide and the angle at which they traverse the ground is adjustable. The depth and width of cut are instantly adjustable by hand levers; the latter may be set anywhere between 15 inches and 3 feet.

Price, £5/7/6. Freight extra. Nett weight 74lbs.

No. 90B

Similar to No. 90, but without the pulveriser.

Price, £4/15/-. Freight extra. Nett weight 66lbs.



No. 41—Orchard and Universal Cultivator

This machine has two wheels of which the track is adjustable from 30-40 ins. There are seven steel cultivator teeth running behind the wheels with two extra teeth on both sides on extension bars, making a total of eleven teeth. Complete with the extension the machine cuts 6 ft. 6 ins., and can be adjusted anywhere down to a 4ft. cut. There is a side hitch for two horses with the tongue set 15 ins. to the left of centre, thus allowing for working under low branches of orchard trees.

Price, £25. Freight extra. Weight packed 474lbs.

With three-horse hitch, £27/10/-

Without extensions bars, £22

The Practical Organisation

Behind the Words "Re-machined and Tested"

WE HAVE built up in our own warehouse what is undoubtedly the largest and most complete plant in Australia for the cleaning and dressing of Seed; much of this is of our own design and therefore particularly suited to our purposes. The proportion of farmers who realise the folly of sowing un-machined farm seeds is now very high and is ever-increasing, and in consequence of this we are continually adding to and improving our plant to cope with the demand.

Following on the visit of a member of our firm to the U.S.A. we now have an additional and an entirely new type of machine, which, in conjunction with the present machines, will make possible still greater strides in eliminating weed seeds and foreign matter. We have at present seven complete series of machines all electrically driven and occupying some 6,000 square feet of floor space. They have a capacity of 18 to 20 tons of cleaned seed per day, and for the greater part of the year the whole plant is working at full pressure.

The main principles employed in modern Seed Cleaning are: Revolving Cylinders, Wind Blast, Surface Attraction (e.g., Velvet Rollers), Brushing. Each of these methods serves a particular purpose, but it is the continuation and the co-relation of two or more that means **Yates' Re-machined Seed**, and it is here that skill and long experience count.

In our testing department we now have two of the latest electrically heated Seed Testers which are giving extremely accurate results.

All this organisation and our long experience is at your service for a small extra charge over what must be paid for rough dressed Seed. **Is it not worth it?**

